SUPPLEMENT TO THE AMERICAN EPHEMERIS, 1917

TABLES

GIVING

THE TIMES OF RISING AND SETTING OF THE SUN AND MOON 1917 AND 1918

PUBLISHED BY THE NAUTICAL ALMANAC OFFICE, U. S. NAVAL OBSERVATORY, UNDER THE AUTHORITY OF THE SECRETARY OF THE NAVY.
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WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

U. S. NAVAL OBSERVATORY.

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NOTE.—Those whose names are printed in italics devote only a small portion of their time to work of the Nautical Almanac Office.

November, 1916.

PREFACE.

It having been decided to include in future volumes of the *American Ephemeris and Nautical Almanac* and of the *American Nautical Almanac*, beginning with the editions for 1919, tables giving the times of rising and setting of the Sun and Moon in the form contained in the following pages, this supplement containing the corresponding tables for 1917 and 1918 is issued that information on this subject might be available for immediate use.

J. A. HOOGEWERFF,
Captain, U. S. N.,
Superintendent Naval Observatory.

WASHINGTON, *November, 1916.*

CONTENTS.

1917.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 0	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 32	20 46	21 3
1	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 46	21 2
2	18 1	18 18	18 36	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 45	21 2
3	18 1	18 18	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 19	20 31	20 45	21 1
4	18 2	18 18	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 18	20 30	20 44	21 0
5	18 2	18 19	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 18	20 30	20 44	21 0
6	18 2	18 19	18 37	18 57	19 9	19 22	19 38	19 58	20 7	20 17	20 29	20 43	20 59
7	18 3	18 19	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 17	20 28	20 42	20 58
8	18 3	18 20	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 16	20 28	20 41	20 57
9	18 4	18 20	18 37	18 57	19 9	19 22	19 37	19 56	20 6	20 16	20 27	20 40	20 56
10	18 4	18 20	18 38	18 57	19 9	19 22	19 37	19 56	20 5	20 15	20 26	20 39	20 54
11	18 5	18 21	18 38	18 57	19 9	19 22	19 37	19 55	20 4	20 14	20 25	20 38	20 53
12	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 55	20 4	20 13	20 24	20 37	20 52
13	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 54	20 3	20 12	20 23	20 36	20 50
14	18 6	18 21	18 38	18 57	19 8	19 20	19 35	19 53	20 2	20 11	20 22	20 34	20 49
15	18 6	18 22	18 38	18 57	19 8	19 20	19 35	19 53	20 1	20 10	20 21	20 33	20 47
16	18 6	18 22	18 38	18 57	19 8	19 20	19 34	19 52	20 0	20 9	20 20	20 32	20 46
17	18 7	18 22	18 38	18 56	19 7	19 19	19 34	19 51	19 59	20 8	20 19	20 30	20 44
18	18 7	18 22	18 38	18 56	19 7	19 19	19 33	19 50	19 58	20 7	20 17	20 29	20 42
19	18 7	18 22	18 38	18 56	19 6	19 18	19 32	19 49	19 57	20 6	20 16	20 27	20 41
20	18 8	18 22	18 38	18 56	19 6	19 18	19 31	19 48	19 56	20 5	20 15	20 26	20 39
21	18 8	18 22	18 38	18 55	19 6	19 17	19 31	19 47	19 55	20 3	20 13	20 24	20 37
22	18 8	18 23	18 38	18 55	19 5	19 16	19 30	19 46	19 54	20 2	20 12	20 22	20 35
23	18 8	18 23	18 38	18 55	19 4	19 16	19 29	19 45	19 52	20 1	20 10	20 21	20 33
24	18 9	18 23	18 37	18 54	19 4	19 15	19 28	19 44	19 51	19 59	20 8	20 19	20 31
25	18 9	18 23	18 37	18 54	19 4	19 14	19 27	19 43	19 50	19 58	20 7	20 17	20 29
26	18 9	18 23	18 37	18 53	19 3	19 14	19 26	19 41	19 48	19 56	20 5	20 15	20 27
27	18 9	18 23	18 37	18 53	19 2	19 13	19 25	19 40	19 47	19 55	20 4	20 13	20 25
28	18 10	18 23	18 37	18 52	19 2	19 12	19 24	19 39	19 46	19 53	20 2	20 11	20 22
29	18 10	18 23	18 36	18 52	19 1	19 11	19 23	19 37	19 44	19 52	20 0	20 9	20 20
30	18 10	18 23	18 36	18 51	19 0	19 10	19 22	19 36	19 43	19 50	19 58	20 7	20 18
31	18 10	18 23	18 36	18 51	19 0	19 9	19 21	19 35	19 41	19 48	19 56	20 5	20 16
Feb. 1	18 10	18 22	18 36	18 50	18 59	19 8	19 20	19 33	19 40	19 46	19 54	20 3	20 13
2	18 10	18 22	18 35	18 50	18 58	19 7	19 18	19 32	19 38	19 45	19 52	20 1	20 11
3	18 10	18 22	18 35	18 49	18 57	19 6	19 17	19 30	19 36	19 43	19 50	19 59	20 8
4	18 10	18 22	18 34	18 48	18 56	19 5	19 16	19 29	19 35	19 41	19 48	19 57	20 6
5	18 10	18 22	18 34	18 48	18 55	19 4	19 15	19 27	19 33	19 39	19 46	19 54	20 3
6	18 11	18 22	18 34	18 47	18 55	19 3	19 13	19 26	19 31	19 37	19 44	19 52	20 1
7	18 11	18 22	18 33	18 46	18 54	19 2	19 12	19 24	19 30	19 36	19 42	19 50	19 58
8	18 11	18 21	18 33	18 46	18 53	19 1	19 11	19 22	19 28	19 34	19 40	19 48	19 56
9	18 11	18 21	18 32	18 45	18 52	19 0	19 9	19 21	19 26	19 32	19 38	19 45	19 53
10	18 11	18 21	18 32	18 44	18 51	18 59	19 8	19 19	19 24	19 30	19 36	19 43	19 51
11	18 11	18 21	18 31	18 43	18 50	18 58	19 6	19 17	19 22	19 28	19 34	19 40	19 48
12	18 11	18 20	18 31	18 42	18 49	18 56	19 5	19 16	19 20	19 26	19 31	19 38	19 45
13	18 11	18 20	18 30	18 42	18 48	18 55	19 4	19 14	19 18	19 24	19 29	19 36	19 43
14	18 11	18 20	18 30	18 41	18 47	18 54	19 2	19 12	19 16	19 21	19 27	19 33	19 40
15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 10	19 14	19 19	19 25	19 31	19 37

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

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For sunset in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 1	6 7	5 50	5 32	5 11	4 59	4 45	4 29	4 8	3 59	3 48	3 36	3 22	3 5
2	6 8	5 51	5 33	5 12	5 0	4 46	4 30	4 10	4 0	3 49	3 37	3 23	3 6
3	6 8	5 51	5 33	5 13	5 1	4 47	4 31	4 11	4 1	3 50	3 38	3 24	3 8
4	6 9	5 52	5 34	5 13	5 1	4 48	4 32	4 12	4 2	3 52	3 40	3 25	3 9
5	6 9	5 52	5 35	5 14	5 2	4 49	4 33	4 13	4 4	3 53	3 41	3 27	3 11
6	6 10	5 53	5 35	5 15	5 3	4 50	4 34	4 14	4 5	3 54	3 42	3 29	3 13
7	6 10	5 54	5 36	5 16	5 4	4 50	4 35	4 15	4 6	3 56	3 44	3 30	3 14
8	6 10	5 54	5 36	5 16	5 5	4 51	4 36	4 16	4 7	3 57	3 45	3 32	3 16
9	6 11	5 55	5 37	5 17	5 6	4 52	4 37	4 18	4 9	3 59	3 47	3 34	3 18
10	6 11	5 55	5 38	5 18	5 7	4 54	4 38	4 19	4 10	4 0	3 49	3 36	3 20
11	6 12	5 56	5 38	5 19	5 8	4 55	4 39	4 20	4 12	4 2	3 50	3 37	3 22
12	6 12	5 56	5 39	5 20	5 8	4 56	4 40	4 22	4 13	4 3	3 52	3 39	3 24
13	6 12	5 57	5 40	5 20	5 9	4 57	4 42	4 23	4 14	4 5	3 54	3 41	3 26
14	6 13	5 57	5 40	5 21	5 10	4 58	4 43	4 25	4 16	4 6	3 56	3 43	3 29
15	6 13	5 58	5 41	5 22	5 11	4 59	4 44	4 26	4 18	4 8	3 57	3 45	3 31
16	6 14	5 58	5 42	5 23	5 12	5 0	4 45	4 28	4 19	4 10	3 59	3 47	3 33
17	6 14	5 58	5 42	5 24	5 13	5 1	4 46	4 29	4 21	4 12	4 1	3 49	3 35
18	6 14	5 59	5 43	5 25	5 14	5 2	4 48	4 31	4 22	4 13	4 3	3 51	3 38
19	6 14	6 0	5 44	5 26	5 15	5 3	4 49	4 32	4 24	4 15	4 5	3 53	3 40
20	6 15	6 0	5 44	5 26	5 16	5 4	4 50	4 34	4 26	4 17	4 7	3 56	3 42
21	6 15	6 0	5 45	5 27	5 17	5 6	4 52	4 35	4 27	4 19	4 9	3 58	3 45
22	6 15	6 1	5 46	5 28	5 18	5 7	4 53	4 37	4 29	4 21	4 11	4 0	3 47
23	6 16	6 1	5 46	5 29	5 19	5 8	4 55	4 38	4 31	4 22	4 13	4 2	3 50
24	6 16	6 2	5 47	5 30	5 20	5 9	4 56	4 40	4 33	4 24	4 15	4 5	3 52
25	6 16	6 2	5 48	5 31	5 21	5 10	4 57	4 42	4 34	4 26	4 17	4 7	3 55
26	6 16	6 3	5 48	5 32	5 22	5 12	4 59	4 43	4 36	4 28	4 19	4 9	3 58
27	6 16	6 3	5 49	5 33	5 23	5 13	5 0	4 45	4 38	4 30	4 21	4 11	4 0
28	6 17	6 4	5 49	5 34	5 24	5 14	5 2	4 47	4 40	4 32	4 24	4 14	4 3
29	6 17	6 4	5 50	5 34	5 25	5 15	5 3	4 48	4 42	4 34	4 26	4 16	4 5
30	6 17	6 4	5 51	5 35	5 26	5 16	5 4	4 50	4 43	4 36	4 28	4 18	4 8
31	6 17	6 4	5 51	5 36	5 27	5 17	5 6	4 52	4 45	4 38	4 30	4 21	4 10
Feb. 1	6 18	6 5	5 52	5 37	5 28	5 19	5 7	4 53	4 47	4 40	4 32	4 23	4 13
2	6 18	6 5	5 52	5 38	5 29	5 20	5 9	4 55	4 49	4 42	4 34	4 26	4 16
3	6 18	6 6	5 53	5 38	5 30	5 21	5 10	4 57	4 51	4 44	4 36	4 28	4 18
4	6 18	6 6	5 54	5 39	5 31	5 22	5 12	4 59	4 53	4 46	4 39	4 30	4 20
5	6 18	6 6	5 54	5 40	5 32	5 23	5 13	5 0	4 54	4 48	4 41	4 33	4 24
6	6 18	6 7	5 55	5 41	5 33	5 25	5 14	5 2	4 56	4 50	4 43	4 35	4 26
7	6 18	6 7	5 55	5 42	5 34	5 26	5 16	5 4	4 58	4 52	4 45	4 38	4 29
8	6 18	6 7	5 56	5 43	5 35	5 27	5 17	5 5	5 0	4 54	4 47	4 40	4 31
9	6 18	6 7	5 56	5 44	5 36	5 28	5 19	5 7	5 2	4 56	4 50	4 42	4 34
10	6 18	6 8	5 57	5 44	5 37	5 29	5 20	5 9	5 4	4 58	4 52	4 45	4 37
11	6 18	6 8	5 57	5 45	5 38	5 31	5 22	5 11	5 6	5 0	4 54	4 47	4 39
12	6 18	6 8	5 58	5 46	5 39	5 32	5 23	5 12	5 8	5 2	4 56	4 50	4 42
13	6 18	6 8	5 58	5 47	5 40	5 33	5 24	5 14	5 9	5 4	4 58	4 52	4 45
14	6 18	6 8	5 59	5 48	5 41	5 34	5 26	5 16	5 11	5 6	5 0	4 54	4 47
15	6 18	6 9	5 59	5 48	5 42	5 35	5 27	5 18	5 13	5 8	5 3	4 57	4 50
16	6 18	6 9	6 0	5 49	5 43	5 36	5 29	5 19	5 15	5 10	5 5	4 59	4 52

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

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	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 10	19 14	19 19	19 25	19 31	19 37
16	18 11	18 19	18 28	18 39	18 45	18 51	18 59	19 8	19 12	19 17	19 22	19 28	19 34
17	18 11	18 19	18 28	18 38	18 44	18 50	18 57	19 6	19 10	19 15	19 20	19 26	19 32
18	18 11	18 19	18 27	18 37	18 42	18 49	18 56	19 4	19 8	19 13	19 18	19 23	19 29
19	18 10	18 18	18 27	18 36	18 41	18 47	18 54	19 3	19 6	19 11	19 15	19 20	19 26
20	18 10	18 18	18 26	18 35	18 40	18 46	18 53	19 1	19 4	19 8	19 13	19 18	19 23
21	18 10	18 18	18 25	18 34	18 39	18 44	18 51	18 59	19 2	19 6	19 10	19 15	19 20
22	18 10	18 17	18 25	18 33	18 38	18 43	18 49	18 57	19 0	19 4	19 8	19 13	19 18
23	18 10	18 17	18 24	18 32	18 37	18 42	18 48	18 55	18 58	19 2	19 6	19 10	19 15
24	18 10	18 16	18 23	18 31	18 35	18 40	18 46	18 53	18 56	18 59	19 3	19 7	19 12
25	18 10	18 16	18 22	18 30	18 34	18 39	18 44	18 51	18 54	18 57	19 1	19 5	19 9
26	18 10	18 16	18 22	18 29	18 33	18 37	18 43	18 49	18 52	18 55	18 58	19 2	19 6
27	18 9	18 15	18 21	18 28	18 32	18 36	18 41	18 47	18 50	18 52	18 56	18 59	19 3
28	18 9	18 15	18 20	18 27	18 30	18 34	18 39	18 45	18 47	18 50	18 53	18 57	19 0
Mar. 1	18 9	18 14	18 20	18 26	18 29	18 33	18 37	18 43	18 45	18 48	18 51	18 54	18 58
2	18 9	18 14	18 19	18 25	18 28	18 32	18 36	18 41	18 43	18 45	18 48	18 51	18 55
3	18 9	18 13	18 18	18 23	18 27	18 30	18 34	18 39	18 41	18 43	18 46	18 48	18 52
4	18 8	18 13	18 17	18 22	18 25	18 28	18 32	18 37	18 38	18 41	18 43	18 46	18 49
5	18 8	18 12	18 16	18 21	18 24	18 27	18 30	18 34	18 36	18 38	18 40	18 43	18 46
6	18 8	18 12	18 16	18 20	18 22	18 25	18 28	18 32	18 34	18 36	18 38	18 40	18 43
7	18 8	18 11	18 15	18 19	18 21	18 24	18 27	18 30	18 32	18 33	18 35	18 37	18 40
8	18 7	18 11	18 14	18 18	18 20	18 22	18 25	18 28	18 29	18 31	18 33	18 35	18 37
9	18 7	18 10	18 13	18 17	18 19	18 21	18 23	18 26	18 27	18 29	18 30	18 32	18 34
10	18 7	18 10	18 12	18 16	18 17	18 19	18 21	18 24	18 25	18 26	18 28	18 29	18 31
11	18 7	18 9	18 12	18 14	18 16	18 18	18 19	18 22	18 23	18 24	18 25	18 26	18 28
12	18 6	18 9	18 11	18 13	18 14	18 16	18 18	18 20	18 20	18 21	18 22	18 24	18 25
13	18 6	18 8	18 10	18 12	18 13	18 14	18 16	18 17	18 18	18 19	18 20	18 21	18 22
14	18 6	18 7	18 9	18 11	18 12	18 13	18 14	18 15	18 16	18 16	18 17	18 18	18 19
15	18 6	18 7	18 8	18 10	18 10	18 11	18 12	18 13	18 13	18 14	18 14	18 15	18 16
16	18 5	18 6	18 7	18 8	18 9	18 10	18 10	18 11	18 11	18 12	18 12	18 12	18 13
17	18 5	18 6	18 6	18 7	18 8	18 8	18 8	18 9	18 9	18 9	18 9	18 10	18 10
18	18 5	18 5	18 6	18 6	18 6	18 6	18 6	18 6	18 6	18 6	18 7	18 7	18 7
19	18 4	18 5	18 5	18 5	18 5	18 5	18 4	18 4	18 4	18 4	18 4	18 4	18 4
20	18 4	18 4	18 4	18 4	18 3	18 3	18 3	18 2	18 2	18 2	18 1	18 1	18 1
21	18 4	18 3	18 3	18 2	18 2	18 1	18 1	18 0	18 0	17 59	17 59	17 58	17 58
22	18 4	18 3	18 2	18 1	18 0	18 0	17 59	17 58	17 58	17 57	17 56	17 55	17 54
23	18 3	18 2	18 1	18 0	17 59	17 58	17 57	17 56	17 55	17 54	17 53	17 53	17 52
24	18 3	18 2	18 0	17 59	17 58	17 57	17 55	17 53	17 53	17 52	17 51	17 50	17 48
25	18 2	18 1	17 59	17 57	17 56	17 55	17 53	17 51	17 50	17 49	17 48	17 47	17 46
26	18 2	18 0	17 58	17 56	17 55	17 53	17 51	17 49	17 48	17 47	17 45	17 44	17 42
27	18 2	18 0	17 58	17 55	17 54	17 52	17 50	17 47	17 46	17 44	17 43	17 41	17 39
28	18 2	17 59	17 57	17 54	17 52	17 50	17 48	17 45	17 43	17 42	17 40	17 38	17 36
29	18 1	17 59	17 56	17 53	17 51	17 48	17 46	17 42	17 41	17 39	17 38	17 36	17 33
30	18 1	17 58	17 55	17 51	17 49	17 47	17 44	17 40	17 39	17 37	17 35	17 33	17 30
31	18 1	17 58	17 54	17 50	17 48	17 45	17 42	17 38	17 36	17 34	17 32	17 30	17 27
Apr. 1	18 0	17 57	17 53	17 49	17 46	17 44	17 40	17 36	17 34	17 32	17 30	17 27	17 24
2	18 0	17 57	17 52	17 48	17 45	17 42	17 38	17 34	17 32	17 30	17 27	17 24	17 21

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

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Date.	Lat. 0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 16	6 18	6 9	6 0	5 49	5 43	5 36	5 29	5 19	5 15	5 10	5 5	4 59	4 52
17	6 18	6 9	6 0	5 50	5 44	5 38	5 30	5 21	5 17	5 12	5 7	5 1	4 55
18	6 18	6 9	6 0	5 51	5 45	5 39	5 31	5 23	5 19	5 14	5 9	5 4	4 58
19	6 17	6 9	6 1	5 51	5 46	5 40	5 33	5 24	5 20	5 16	5 11	5 6	5 0
20	6 17	6 10	6 1	5 52	5 47	5 41	5 34	5 26	5 22	5 18	5 14	5 8	5 3
21	6 17	6 10	6 2	5 53	5 48	5 42	5 36	5 28	5 24	5 20	5 16	5 11	5 6
22	6 17	6 10	6 2	5 54	5 49	5 43	5 37	5 30	5 26	5 22	5 18	5 13	5 8
23	6 17	6 10	6 3	5 54	5 50	5 45	5 38	5 31	5 28	5 24	5 20	5 16	5 11
24	6 17	6 10	6 3	5 55	5 51	5 46	5 40	5 33	5 30	5 26	5 22	5 18	5 13
25	6 17	6 10	6 4	5 56	5 52	5 47	5 41	5 35	5 32	5 28	5 24	5 20	5 16
26	6 16	6 10	6 4	5 57	5 53	5 48	5 43	5 36	5 33	5 30	5 27	5 23	5 18
27	6 16	6 10	6 4	5 57	5 53	5 49	5 44	5 38	5 35	5 32	5 29	5 25	5 21
28	6 16	6 10	6 5	5 58	5 54	5 50	5 45	5 40	5 37	5 34	5 31	5 27	5 23
Mar. 1	6 16	6 10	6 5	5 59	5 55	5 51	5 47	5 41	5 39	5 36	5 33	5 30	5 26
2	6 16	6 11	6 5	6 0	5 56	5 52	5 48	5 43	5 41	5 38	5 35	5 32	5 28
3	6 15	6 11	6 6	6 0	5 57	5 53	5 49	5 44	5 42	5 40	5 37	5 34	5 31
4	6 15	6 11	6 6	6 1	5 58	5 55	5 51	5 46	5 44	5 42	5 39	5 37	5 34
5	6 15	6 11	6 6	6 2	5 59	5 56	5 52	5 48	5 46	5 44	5 42	5 39	5 36
6	6 15	6 11	6 7	6 2	6 0	5 57	5 53	5 49	5 48	5 46	5 44	5 41	5 38
7	6 15	6 11	6 7	6 3	6 0	5 58	5 55	5 51	5 50	5 48	5 46	5 44	5 41
8	6 14	6 11	6 7	6 4	6 1	5 59	5 56	5 53	5 51	5 50	5 48	5 46	5 44
9	6 14	6 11	6 8	6 4	6 2	6 0	5 57	5 54	5 53	5 52	5 50	5 48	5 46
10	6 14	6 11	6 8	6 5	6 3	6 1	5 59	5 56	5 55	5 53	5 52	5 50	5 48
11	6 14	6 11	6 8	6 5	6 4	6 2	6 0	5 58	5 56	5 55	5 54	5 52	5 51
12	6 13	6 11	6 9	6 6	6 5	6 3	6 1	5 59	5 58	5 57	5 56	5 55	5 53
13	6 13	6 11	6 9	6 7	6 5	6 4	6 3	6 1	6 0	5 59	5 58	5 57	5 56
14	6 13	6 11	6 9	6 7	6 6	6 5	6 4	6 2	6 2	6 1	6 0	5 59	5 58
15	6 12	6 11	6 10	6 8	6 7	6 6	6 5	6 4	6 4	6 3	6 2	6 2	6 1
16	6 12	6 11	6 10	6 9	6 8	6 7	6 6	6 6	6 5	6 5	6 4	6 4	6 3
17	6 12	6 11	6 10	6 9	6 9	6 8	6 8	6 7	6 7	6 7	6 6	6 6	6 6
18	6 12	6 11	6 10	6 10	6 10	6 9	6 9	6 9	6 9	6 9	6 8	6 8	6 8
19	6 11	6 11	6 11	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 11	6 11
20	6 11	6 11	6 11	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 12	6 13	6 13
21	6 11	6 11	6 11	6 12	6 12	6 12	6 13	6 14	6 14	6 14	6 14	6 15	6 15
22	6 10	6 11	6 12	6 13	6 13	6 13	6 14	6 15	6 16	6 16	6 17	6 17	6 18
23	6 10	6 11	6 12	6 13	6 14	6 14	6 16	6 17	6 17	6 18	6 19	6 20	6 20
24	6 10	6 11	6 12	6 14	6 14	6 16	6 17	6 18	6 19	6 20	6 21	6 22	6 23
25	6 9	6 11	6 12	6 14	6 15	6 16	6 18	6 20	6 21	6 22	6 23	6 24	6 25
26	6 9	6 11	6 13	6 15	6 16	6 18	6 19	6 22	6 22	6 24	6 25	6 26	6 28
27	6 9	6 11	6 13	6 15	6 17	6 18	6 21	6 23	6 24	6 26	6 27	6 28	6 30
28	6 8	6 11	6 13	6 16	6 18	6 20	6 22	6 25	6 26	6 27	6 29	6 31	6 32
29	6 8	6 11	6 13	6 17	6 18	6 20	6 23	6 26	6 28	6 29	6 30	6 33	6 35
30	6 8	6 11	6 14	6 17	6 19	6 22	6 24	6 28	6 29	6 31	6 33	6 35	6 37
31	6 8	6 11	6 14	6 18	6 20	6 22	6 26	6 29	6 31	6 33	6 35	6 37	6 40
Apr. 1	6 7	6 11	6 14	6 18	6 21	6 24	6 27	6 31	6 33	6 35	6 37	6 40	6 42
2	6 7	6 10	6 14	6 19	6 22	6 24	6 28	6 32	6 34	6 37	6 39	6 42	6 45
3	6 7	6 10	6 15	6 20	6 22	6 26	6 29	6 34	6 36	6 38	6 41	6 44	6 47

CONTENTS.

1917.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minute the station is west of the standard meridian, or decrease the local time by the number of minute the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h
Jan. 0	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 32	20 46	21
1	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 46	21
2	18 1	18 18	18 36	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 45	21
3	18 1	18 18	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 19	20 31	20 45	21
4	18 2	18 18	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 18	20 30	20 44	21
5	18 2	18 19	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 18	20 30	20 44	21
6	18 2	18 19	18 37	18 57	19 9	19 22	19 38	19 58	20 7	20 17	20 29	20 43	20
7	18 3	18 19	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 17	20 28	20 42	20
8	18 3	18 20	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 16	20 28	20 41	20
9	18 4	18 20	18 37	18 57	19 9	19 22	19 37	19 56	20 6	20 16	20 27	20 40	20
10	18 4	18 20	18 38	18 57	19 9	19 22	19 37	19 56	20 5	20 15	20 26	20 39	20
11	18 5	18 21	18 38	18 57	19 9	19 22	19 37	19 55	20 4	20 14	20 25	20 38	20
12	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 55	20 4	20 13	20 24	20 37	20
13	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 54	20 3	20 12	20 23	20 36	20
14	18 6	18 21	18 38	18 57	19 8	19 20	19 35	19 53	20 2	20 11	20 22	20 34	20
15	18 6	18 22	18 38	18 57	19 8	19 20	19 35	19 53	20 1	20 10	20 21	20 33	20
16	18 6	18 22	18 38	18 57	19 8	19 20	19 34	19 52	20 0	20 9	20 20	20 32	20
17	18 7	18 22	18 38	18 56	19 7	19 19	19 34	19 51	19 59	20 8	20 19	20 30	20
18	18 7	18 22	18 38	18 56	19 7	19 19	19 33	19 50	19 58	20 7	20 17	20 29	20
19	18 7	18 22	18 38	18 56	19 6	19 18	19 32	19 49	19 57	20 6	20 16	20 27	20
20	18 8	18 22	18 38	18 56	19 6	19 18	19 31	19 48	19 56	20 5	20 15	20 26	20
21	18 8	18 22	18 38	18 55	19 6	19 17	19 31	19 47	19 55	20 3	20 13	20 24	20
22	18 8	18 23	18 38	18 55	19 5	19 16	19 30	19 46	19 54	20 2	20 12	20 22	20
23	18 8	18 23	18 38	18 55	19 4	19 16	19 29	19 45	19 52	20 1	20 10	20 21	20
24	18 9	18 23	18 37	18 54	19 4	19 15	19 28	19 44	19 51	19 59	20 8	20 19	20
25	18 9	18 23	18 37	18 54	19 4	19 14	19 27	19 43	19 50	19 58	20 7	20 17	20
26	18 9	18 23	18 37	18 53	19 3	19 14	19 26	19 41	19 48	19 56	20 5	20 15	20
27	18 9	18 23	18 37	18 53	19 2	19 13	19 25	19 40	19 47	19 55	20 4	20 13	20
28	18 10	18 23	18 37	18 52	19 2	19 12	19 24	19 39	19 46	19 53	20 2	20 11	20
29	18 10	18 23	18 36	18 52	19 1	19 11	19 23	19 37	19 44	19 52	20 0	20 9	20
30	18 10	18 23	18 36	18 51	19 0	19 10	19 22	19 36	19 43	19 50	19 58	20 7	20
31	18 10	18 23	18 36	18 51	19 0	19 9	19 21	19 35	19 41	19 48	19 56	20 5	20
Feb. 1	18 10	18 22	18 36	18 50	18 59	19 8	19 20	19 33	19 40	19 46	19 54	20 3	20
2	18 10	18 22	18 35	18 50	18 58	19 7	19 18	19 32	19 38	19 45	19 52	20 1	20
3	18 10	18 22	18 35	18 49	18 57	19 6	19 17	19 30	19 36	19 43	19 50	19 59	20
4	18 10	18 22	18 34	18 48	18 56	19 5	19 16	19 29	19 35	19 41	19 48	19 57	20
5	18 10	18 22	18 34	18 48	18 55	19 4	19 15	19 27	19 33	19 39	19 46	19 54	20
6	18 11	18 22	18 34	18 47	18 55	19 3	19 13	19 26	19 31	19 37	19 44	19 52	20
7	18 11	18 22	18 33	18 46	18 54	19 2	19 12	19 24	19 30	19 36	19 42	19 50	19
8	18 11	18 21	18 33	18 46	18 53	19 1	19 11	19 22	19 28	19 34	19 40	19 48	19
9	18 11	18 21	18 32	18 45	18 52	19 0	19 9	19 21	19 26	19 32	19 38	19 45	19
10	18 11	18 21	18 32	18 44	18 51	18 59	19 8	19 19	19 24	19 30	19 36	19 43	19
11	18 11	18 21	18 31	18 43	18 50	18 58	19 6	19 17	19 22	19 28	19 34	19 40	19
12	18 11	18 20	18 31	18 42	18 49	18 56	19 5	19 16	19 20	19 26	19 31	19 38	19
13	18 11	18 20	18 30	18 42	18 48	18 55	19 4	19 14	19 18	19 24	19 29	19 36	19
14	18 11	18 20	18 30	18 41	18 47	18 54	19 2	19 12	19 16	19 21	19 27	19 33	19
15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 10	19 14	19 19	19 25	19 31	19

OCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes e station is west of the standard meridian, or decrease the local time by the number of minutes e station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Lat. / Mo.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
n. 1	6 7	5 50	5 32	5 11	4 59	4 45	4 29	4 8	3 59	3 48	3 36	3 22	3 5
2	6 8	5 51	5 33	5 12	5 0	4 46	4 30	4 10	4 0	3 49	3 37	3 23	3 6
3	6 8	5 51	5 33	5 13	5 1	4 47	4 31	4 11	4 1	3 50	3 38	3 24	3 8
4	6 9	5 52	5 34	5 13	5 1	4 48	4 32	4 12	4 2	3 52	3 40	3 25	3 9
5	6 9	5 52	5 35	5 14	5 2	4 49	4 33	4 13	4 4	3 53	3 41	3 27	3 11
6	6 10	5 53	5 35	5 15	5 3	4 50	4 34	4 14	4 5	3 54	3 42	3 29	3 13
7	6 10	5 54	5 36	5 16	5 4	4 50	4 35	4 15	4 6	3 56	3 44	3 30	3 14
8	6 10	5 54	5 36	5 16	5 5	4 51	4 36	4 16	4 7	3 57	3 45	3 32	3 16
9	6 11	5 55	5 37	5 17	5 6	4 52	4 37	4 18	4 9	3 59	3 47	3 34	3 18
10	6 11	5 55	5 38	5 18	5 7	4 54	4 38	4 19	4 10	4 0	3 49	3 36	3 20
11	6 12	5 56	5 38	5 19	5 8	4 55	4 39	4 20	4 12	4 2	3 50	3 37	3 22
12	6 12	5 56	5 39	5 20	5 8	4 56	4 40	4 22	4 13	4 3	3 52	3 39	3 24
13	6 12	5 57	5 40	5 20	5 9	4 57	4 42	4 23	4 14	4 5	3 54	3 41	3 26
14	6 13	5 57	5 40	5 21	5 10	4 58	4 43	4 25	4 16	4 6	3 56	3 43	3 29
15	6 13	5 58	5 41	5 22	5 11	4 59	4 44	4 26	4 18	4 8	3 57	3 45	3 31
16	6 14	5 58	5 42	5 23	5 12	5 0	4 45	4 28	4 19	4 10	3 59	3 47	3 33
17	6 14	5 58	5 42	5 24	5 13	5 1	4 46	4 29	4 21	4 12	4 1	3 49	3 35
18	6 14	5 59	5 43	5 25	5 14	5 2	4 48	4 31	4 22	4 13	4 3	3 51	3 38
19	6 14	6 0	5 44	5 26	5 15	5 3	4 49	4 32	4 24	4 15	4 5	3 53	3 40
20	6 15	6 0	5 44	5 26	5 16	5 4	4 50	4 34	4 26	4 17	4 7	3 56	3 42
21	6 15	6 0	5 45	5 27	5 17	5 6	4 52	4 35	4 27	4 19	4 9	3 58	3 45
22	6 15	6 1	5 46	5 28	5 18	5 7	4 53	4 37	4 29	4 21	4 11	4 0	3 47
23	6 16	6 1	5 46	5 29	5 19	5 8	4 55	4 38	4 31	4 22	4 13	4 2	3 50
24	6 16	6 2	5 47	5 30	5 20	5 9	4 56	4 40	4 33	4 24	4 15	4 5	3 52
25	6 16	6 2	5 48	5 31	5 21	5 10	4 57	4 42	4 34	4 26	4 17	4 7	3 55
26	6 16	6 3	5 48	5 32	5 22	5 12	4 59	4 43	4 36	4 28	4 19	4 9	3 58
27	6 16	6 3	5 49	5 33	5 23	5 13	5 0	4 45	4 38	4 30	4 21	4 11	4 0
28	6 17	6 4	5 49	5 34	5 24	5 14	5 2	4 47	4 40	4 32	4 24	4 14	4 3
29	6 17	6 4	5 50	5 34	5 25	5 15	5 3	4 48	4 42	4 34	4 26	4 16	4 5
30	6 17	6 4	5 51	5 35	5 26	5 16	5 4	4 50	4 43	4 36	4 28	4 18	4 8
31	6 17	6 4	5 51	5 36	5 27	5 17	5 6	4 52	4 45	4 38	4 30	4 21	4 10
eb. 1	6 18	6 5	5 52	5 37	5 28	5 19	5 7	4 53	4 47	4 40	4 32	4 23	4 13
2	6 18	6 5	5 52	5 38	5 29	5 20	5 9	4 55	4 49	4 42	4 34	4 26	4 16
3	6 18	6 6	5 53	5 38	5 30	5 21	5 10	4 57	4 51	4 44	4 36	4 28	4 18
4	6 18	6 6	5 54	5 39	5 31	5 22	5 12	4 59	4 53	4 46	4 39	4 30	4 20
5	6 18	6 6	5 54	5 40	5 32	5 23	5 13	5 0	4 54	4 48	4 41	4 33	4 24
6	6 18	6 7	5 55	5 41	5 33	5 25	5 14	5 2	4 56	4 50	4 43	4 35	4 26
7	6 18	6 7	5 55	5 42	5 34	5 26	5 16	5 4	4 58	4 52	4 45	4 38	4 29
8	6 18	6 7	5 56	5 43	5 35	5 27	5 17	5 5	5 0	4 54	4 47	4 40	4 31
9	6 18	6 7	5 56	5 44	5 36	5 28	5 19	5 7	5 2	4 56	4 50	4 42	4 34
10	6 18	6 8	5 57	5 44	5 37	5 29	5 20	5 9	5 4	4 58	4 52	4 45	4 37
11	6 18	6 8	5 57	5 45	5 38	5 31	5 22	5 11	5 6	5 0	4 54	4 47	4 39
12	6 18	6 8	5 58	5 46	5 39	5 32	5 23	5 12	5 8	5 2	4 56	4 50	4 42
13	6 18	6 8	5 58	5 47	5 40	5 33	5 24	5 14	5 9	5 4	4 58	4 52	4 45
14	6 18	6 8	5 59	5 48	5 41	5 34	5 26	5 16	5 11	5 6	5 0	4 54	4 47
15	6 18	6 9	5 59	5 48	5 42	5 35	5 27	5 18	5 13	5 8	5 3	4 57	4 50
16	6 18	6 9	6 0	5 49	5 43	5 36	5 29	5 19	5 15	5 10	5 5	4 59	4 52

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 191

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minu the station is west of the standard meridian, or decrease the local time by the number of minu the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h
Feb. 15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 10	19 14	19 19	19 25	19 31	19
16	18 11	18 19	18 28	18 39	18 45	18 51	18 59	19 8	19 12	19 17	19 22	19 28	19
17	18 11	18 19	18 28	18 38	18 44	18 50	18 57	19 6	19 10	19 15	19 20	19 26	19
18	18 11	18 19	18 27	18 37	18 42	18 49	18 56	19 4	19 8	19 13	19 18	19 23	19
19	18 10	18 18	18 27	18 36	18 41	18 47	18 54	19 3	19 6	19 11	19 15	19 20	19
20	18 10	18 18	18 26	18 35	18 40	18 46	18 53	19 1	19 4	19 8	19 13	19 18	19
21	18 10	18 18	18 25	18 34	18 39	18 44	18 51	18 59	19 2	19 6	19 10	19 15	19
22	18 10	18 17	18 25	18 33	18 38	18 43	18 49	18 57	19 0	19 4	19 8	19 13	19
23	18 10	18 17	18 24	18 32	18 37	18 42	18 48	18 55	18 58	19 2	19 6	19 10	19
24	18 10	18 16	18 23	18 31	18 35	18 40	18 46	18 53	18 56	18 59	19 3	19 7	19
25	18 10	18 16	18 22	18 30	18 34	18 39	18 44	18 51	18 54	18 57	19 1	19 5	19
26	18 10	18 16	18 22	18 29	18 33	18 37	18 43	18 49	18 52	18 55	18 58	19 2	19
27	18 9	18 15	18 21	18 28	18 32	18 36	18 41	18 47	18 50	18 52	18 56	18 59	19
28	18 9	18 15	18 20	18 27	18 30	18 34	18 39	18 45	18 47	18 50	18 53	18 57	19
Mar. 1	18 9	18 14	18 20	18 26	18 29	18 33	18 37	18 43	18 45	18 48	18 51	18 54	18
2	18 9	18 14	18 19	18 25	18 28	18 32	18 36	18 41	18 43	18 45	18 48	18 51	18
3	18 9	18 13	18 18	18 23	18 27	18 30	18 34	18 39	18 41	18 43	18 46	18 48	18
4	18 8	18 13	18 17	18 22	18 25	18 28	18 32	18 37	18 38	18 41	18 43	18 46	18
5	18 8	18 12	18 16	18 21	18 24	18 27	18 30	18 34	18 36	18 38	18 40	18 43	18
6	18 8	18 12	18 16	18 20	18 22	18 25	18 28	18 32	18 34	18 36	18 38	18 40	18
7	18 8	18 11	18 15	18 19	18 21	18 24	18 27	18 30	18 32	18 33	18 35	18 37	18
8	18 7	18 11	18 14	18 18	18 20	18 22	18 25	18 28	18 29	18 31	18 33	18 35	18
9	18 7	18 10	18 13	18 17	18 19	18 21	18 23	18 26	18 27	18 29	18 30	18 32	18
10	18 7	18 10	18 12	18 16	18 17	18 19	18 21	18 24	18 25	18 26	18 28	18 29	18
11	18 7	18 9	18 12	18 14	18 16	18 18	18 19	18 22	18 23	18 24	18 25	18 26	18
12	18 6	18 9	18 11	18 13	18 14	18 16	18 18	18 20	18 20	18 21	18 22	18 24	18
13	18 6	18 8	18 10	18 12	18 13	18 14	18 16	18 17	18 18	18 19	18 20	18 21	18
14	18 6	18 7	18 9	18 11	18 12	18 13	18 14	18 15	18 16	18 16	18 17	18 18	18
15	18 6	18 7	18 8	18 10	18 10	18 11	18 12	18 13	18 13	18 14	18 14	18 15	18
16	18 5	18 6	18 7	18 8	18 9	18 10	18 10	18 11	18 11	18 12	18 12	18 12	18
17	18 5	18 6	18 6	18 7	18 8	18 8	18 8	18 9	18 9	18 9	18 9	18 10	18
18	18 5	18 5	18 6	18 6	18 6	18 6	18 6	18 6	18 6	18 6	18 7	18 7	18
19	18 4	18 5	18 5	18 5	18 5	18 5	18 4	18 4	18 4	18 4	18 4	18 4	18
20	18 4	18 4	18 4	18 4	18 3	18 3	18 3	18 2	18 2	18 2	18 1	18 1	18
21	18 4	18 3	18 3	18 2	18 2	18 1	18 1	18 0	18 0	17 59	17 59	17 58	17
22	18 4	18 3	18 2	18 1	18 0	18 0	17 59	17 58	17 58	17 57	17 56	17 55	17
23	18 3	18 2	18 1	18 0	17 59	17 58	17 57	17 56	17 55	17 54	17 53	17 53	17
24	18 3	18 2	18 0	17 59	17 58	17 57	17 55	17 53	17 53	17 52	17 51	17 50	17
25	18 2	18 1	17 59	17 57	17 56	17 55	17 53	17 51	17 50	17 49	17 48	17 47	17
26	18 2	18 0	17 58	17 56	17 55	17 53	17 51	17 49	17 48	17 47	17 45	17 44	17
27	18 2	18 0	17 58	17 55	17 54	17 52	17 50	17 47	17 46	17 44	17 43	17 41	17
28	18 2	17 59	17 57	17 54	17 52	17 50	17 48	17 45	17 43	17 42	17 40	17 38	17
29	18 1	17 59	17 56	17 53	17 51	17 48	17 46	17 42	17 41	17 39	17 38	17 36	17
30	18 1	17 58	17 55	17 51	17 49	17 47	17 44	17 40	17 39	17 37	17 35	17 33	17
31	18 1	17 58	17 54	17 50	17 48	17 45	17 42	17 38	17 36	17 34	17 32	17 30	17
Apr. 1	18 0	17 57	17 53	17 49	17 46	17 44	17 40	17 36	17 34	17 32	17 30	17 27	17
2	18 0	17 57	17 52	17 48	17 45	17 42	17 38	17 34	17 32	17 30	17 27	17 24	17

OCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

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For sunset in southern latitudes see page 24.

Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
b. 16	6 18	6 9	6 0	5 49	5 43	5 36	5 29	5 19	5 15	5 10	5 5	4 59	4 52
17	6 18	6 9	6 0	5 50	5 44	5 38	5 30	5 21	5 17	5 12	5 7	5 1	4 55
18	6 18	6 9	6 0	5 51	5 45	5 39	5 31	5 23	5 19	5 14	5 9	5 4	4 58
19	6 17	6 9	6 1	5 51	5 46	5 40	5 33	5 24	5 20	5 16	5 11	5 6	5 0
20	6 17	6 10	6 1	5 52	5 47	5 41	5 34	5 26	5 22	5 18	5 14	5 8	5 3
21	6 17	6 10	6 2	5 53	5 48	5 42	5 36	5 28	5 24	5 20	5 16	5 11	5 6
22	6 17	6 10	6 2	5 54	5 49	5 43	5 37	5 30	5 26	5 22	5 18	5 13	5 8
23	6 17	6 10	6 3	5 54	5 50	5 45	5 38	5 31	5 28	5 24	5 20	5 16	5 11
24	6 17	6 10	6 3	5 55	5 51	5 46	5 40	5 33	5 30	5 26	5 22	5 18	5 13
25	6 17	6 10	6 4	5 56	5 52	5 47	5 41	5 35	5 32	5 28	5 24	5 20	5 16
26	6 16	6 10	6 4	5 57	5 53	5 48	5 43	5 36	5 33	5 30	5 27	5 23	5 18
27	6 16	6 10	6 4	5 57	5 53	5 49	5 44	5 38	5 35	5 32	5 29	5 25	5 21
28	6 16	6 10	6 5	5 58	5 54	5 50	5 45	5 40	5 37	5 34	5 31	5 27	5 23
r. 1	6 16	6 10	6 5	5 59	5 55	5 51	5 47	5 41	5 39	5 36	5 33	5 30	5 26
2	6 16	6 11	6 5	6 0	5 56	5 52	5 48	5 43	5 41	5 38	5 35	5 32	5 28
3	6 15	6 11	6 6	6 0	5 57	5 53	5 49	5 44	5 42	5 40	5 37	5 34	5 31
4	6 15	6 11	6 6	6 1	5 58	5 55	5 51	5 46	5 44	5 42	5 39	5 37	5 34
5	6 15	6 11	6 6	6 2	5 59	5 56	5 52	5 48	5 46	5 44	5 42	5 39	5 36
6	6 15	6 11	6 7	6 2	6 0	5 57	5 53	5 49	5 48	5 46	5 44	5 41	5 38
7	6 15	6 11	6 7	6 3	6 0	5 58	5 55	5 51	5 50	5 48	5 46	5 44	5 41
8	6 14	6 11	6 7	6 4	6 1	5 59	5 56	5 53	5 51	5 50	5 48	5 46	5 44
9	6 14	6 11	6 8	6 4	6 2	6 0	5 57	5 54	5 53	5 52	5 50	5 48	5 46
10	6 14	6 11	6 8	6 5	6 3	6 1	5 59	5 56	5 55	5 53	5 52	5 50	5 48
11	6 14	6 11	6 8	6 5	6 4	6 2	6 0	5 58	5 56	5 55	5 54	5 52	5 51
12	6 13	6 11	6 9	6 6	6 5	6 3	6 1	5 59	5 58	5 57	5 56	5 55	5 53
13	6 13	6 11	6 9	6 7	6 5	6 4	6 3	6 1	6 0	5 59	5 58	5 57	5 56
14	6 13	6 11	6 9	6 7	6 6	6 5	6 4	6 2	6 2	6 1	6 0	5 59	5 58
15	6 12	6 11	6 10	6 8	6 7	6 6	6 5	6 4	6 4	6 3	6 2	6 2	6 1
16	6 12	6 11	6 10	6 9	6 8	6 7	6 6	6 6	6 5	6 5	6 4	6 4	6 3
17	6 12	6 11	6 10	6 9	6 9	6 8	6 8	6 7	6 7	6 7	6 6	6 6	6 6
18	6 12	6 11	6 10	6 10	6 10	6 9	6 9	6 9	6 9	6 9	6 8	6 8	6 8
19	6 11	6 11	6 11	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 11	6 11
20	6 11	6 11	6 11	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 12	6 13	6 13
21	6 11	6 11	6 11	6 12	6 12	6 12	6 13	6 14	6 14	6 14	6 14	6 15	6 15
22	6 10	6 11	6 12	6 13	6 13	6 13	6 14	6 15	6 16	6 16	6 17	6 17	6 18
23	6 10	6 11	6 12	6 13	6 14	6 14	6 16	6 17	6 17	6 18	6 19	6 20	6 20
24	6 10	6 11	6 12	6 14	6 14	6 16	6 17	6 18	6 19	6 20	6 21	6 22	6 23
25	6 9	6 11	6 12	6 14	6 15	6 16	6 18	6 20	6 21	6 22	6 23	6 24	6 25
26	6 9	6 11	6 13	6 15	6 16	6 18	6 19	6 22	6 22	6 24	6 25	6 26	6 28
27	6 9	6 11	6 13	6 15	6 17	6 18	6 21	6 23	6 24	6 26	6 27	6 28	6 30
28	6 8	6 11	6 13	6 16	6 18	6 20	6 22	6 25	6 26	6 27	6 29	6 31	6 32
29	6 8	6 11	6 13	6 17	6 18	6 20	6 23	6 26	6 28	6 29	6 30	6 33	6 35
30	6 8	6 11	6 14	6 17	6 19	6 22	6 24	6 28	6 29	6 31	6 33	6 35	6 37
31	6 8	6 11	6 14	6 18	6 20	6 22	6 26	6 29	6 31	6 33	6 35	6 37	6 40
Apr. 1	6 7	6 11	6 14	6 18	6 21	6 24	6 27	6 31	6 33	6 35	6 37	6 40	6 42
2	6 7	6 10	6 14	6 19	6 22	6 24	6 28	6 32	6 34	6 37	6 39	6 42	6 45
3	6 7	6 10	6 15	6 20	6 22	6 26	6 29	6 34	6 36	6 38	6 41	6 44	6 47

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 1	17 46	17 49	17 51	17 53	17 55	17 56	17 58	18 0	18 1	18 2	18 4	18 5	18 6
2	17 46	17 49	17 51	17 54	17 56	17 58	18 0	18 2	18 3	18 4	18 6	18 7	18 9
3	17 46	17 48	17 52	17 55	17 56	17 58	18 1	18 4	18 5	18 6	18 8	18 9	18 11
4	17 45	17 48	17 52	17 55	17 57	18 0	18 2	18 5	18 6	18 8	18 10	18 11	18 13
5	17 45	17 48	17 52	17 56	17 58	18 0	18 3	18 7	18 8	18 10	18 12	18 14	18 16
6	17 45	17 48	17 52	17 56	17 59	18 2	18 5	18 8	18 10	18 12	18 14	18 16	18 18
7	17 44	17 48	17 52	17 57	18 0	18 2	18 6	18 10	18 12	18 14	18 16	18 18	18 20
8	17 44	17 48	17 53	17 58	18 0	18 4	18 7	18 11	18 13	18 15	18 18	18 20	18 23
9	17 44	17 48	17 53	17 58	18 1	18 5	18 8	18 13	18 15	18 17	18 20	18 22	18 25
10	17 44	17 48	17 53	17 59	18 2	18 6	18 10	18 14	18 17	18 19	18 22	18 25	18 28
11	17 43	17 48	17 54	18 0	18 3	18 7	18 11	18 16	18 18	18 21	18 24	18 27	18 30
12	17 43	17 48	17 54	18 0	18 4	18 8	18 12	18 18	18 20	18 23	18 26	18 29	18 33
13	17 43	17 48	17 54	18 1	18 4	18 9	18 14	18 19	18 22	18 25	18 28	18 31	18 35
14	17 43	17 48	17 55	18 1	18 5	18 10	18 15	18 21	18 24	18 27	18 30	18 34	18 38
15	17 42	17 48	17 55	18 2	18 6	18 11	18 16	18 22	18 26	18 28	18 32	18 36	18 40
16	17 42	17 49	17 55	18 3	18 7	18 12	18 18	18 24	18 27	18 30	18 34	18 38	18 43
17	17 42	17 49	17 56	18 4	18 8	18 13	18 19	18 26	18 29	18 32	18 36	18 40	18 45
18	17 42	17 49	17 56	18 4	18 9	18 14	18 20	18 27	18 31	18 34	18 38	18 43	18 48
19	17 42	17 49	17 56	18 5	18 10	18 15	18 21	18 29	18 32	18 36	18 40	18 45	18 50
20	17 42	17 49	17 57	18 6	18 10	18 16	18 23	18 30	18 34	18 38	18 42	18 47	18 53
21	17 41	17 49	17 57	18 6	18 11	18 17	18 24	18 32	18 36	18 40	18 44	18 50	18 55
22	17 41	17 49	17 58	18 7	18 12	18 18	18 26	18 34	18 38	18 42	18 47	18 52	18 58
23	17 41	17 49	17 58	18 8	18 13	18 19	18 27	18 35	18 39	18 44	18 49	18 54	19 0
24	17 41	17 50	17 58	18 8	18 14	18 21	18 28	18 37	18 41	18 46	18 51	18 56	19 3
25	17 41	17 50	17 59	18 9	18 15	18 22	18 29	18 39	18 43	18 48	18 53	18 59	19 5
26	17 41	17 50	17 59	18 10	18 16	18 23	18 31	18 40	18 45	18 50	18 55	19 1	19 8
27	17 41	17 50	18 0	18 11	18 17	18 24	18 32	18 42	18 47	18 52	18 57	19 3	19 10
28	17 40	17 50	18 0	18 11	18 18	18 25	18 34	18 44	18 48	18 54	18 59	19 6	19 13
29	17 40	17 50	18 0	18 12	18 19	18 26	18 35	18 45	18 50	18 56	19 1	19 8	19 16
30	17 40	17 50	18 1	18 13	18 20	18 27	18 36	18 47	18 52	18 58	19 4	19 10	19 18
31	17 40	17 51	18 1	18 14	18 20	18 28	18 38	18 49	18 54	18 59	19 6	19 13	19 21
Nov. 1	17 40	17 51	18 2	18 14	18 21	18 30	18 39	18 50	18 56	19 1	19 8	19 15	19 23
2	17 40	17 51	18 2	18 15	18 22	18 31	18 40	18 52	18 57	19 3	19 10	19 17	19 26
3	17 40	17 51	18 3	18 16	18 23	18 32	18 42	18 54	18 59	19 5	19 12	19 20	19 28
4	17 40	17 52	18 3	18 17	18 24	18 33	18 43	18 55	19 1	19 7	19 14	19 22	19 31
5	17 40	17 52	18 4	18 17	18 25	18 34	18 44	18 57	19 3	19 9	19 16	19 24	19 33
6	17 40	17 52	18 4	18 18	18 26	18 35	18 46	18 59	19 5	19 11	19 18	19 27	19 36
7	17 40	17 52	18 5	18 19	18 27	18 36	18 47	19 0	19 6	19 13	19 20	19 29	19 39
8	17 40	17 52	18 5	18 20	18 28	18 38	18 49	19 2	19 8	19 15	19 23	19 31	19 41
9	17 41	17 53	18 6	18 21	18 29	18 39	18 50	19 4	19 10	19 17	19 25	19 34	19 44
10	17 41	17 53	18 6	18 22	18 30	18 40	18 51	19 5	19 12	19 19	19 27	19 36	19 46
11	17 41	17 54	18 7	18 22	18 31	18 41	18 53	19 7	19 14	19 21	19 29	19 38	19 49
12	17 41	17 54	18 8	18 23	18 32	18 42	18 54	19 9	19 15	19 23	19 31	19 41	19 51
13	17 41	17 54	18 8	18 24	18 33	18 43	18 56	19 10	19 17	19 25	19 33	19 43	19 54
14	17 41	17 54	18 9	18 25	18 34	18 44	18 57	19 12	19 19	19 26	19 35	19 45	19 56
15	17 41	17 55	18 9	18 26	18 35	18 46	18 58	19 14	19 21	19 28	19 37	19 47	19 59
16	17 42	17 55	18 10	18 26	18 36	18 47	19 0	19 15	19 22	19 30	19 39	19 50	20 1

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Lat. / Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr. 2	6 7	6 10	6 14	6 19	6 22	6 24	6 28	6 32	6 34	6 37	6 39	6 42	6 45
3	6 7	6 10	6 15	6 20	6 22	6 26	6 29	6 34	6 36	6 38	6 41	6 44	6 47
4	6 6	6 10	6 15	6 20	6 23	6 26	6 31	6 36	6 38	6 40	6 43	6 46	6 50
5	6 6	6 10	6 15	6 21	6 24	6 28	6 32	6 37	6 40	6 42	6 45	6 48	6 52
6	6 6	6 10	6 16	6 21	6 25	6 29	6 33	6 39	6 41	6 44	6 47	6 51	6 54
7	6 6	6 10	6 16	6 22	6 25	6 30	6 34	6 40	6 43	6 46	6 49	6 53	6 57
8	6 5	6 10	6 16	6 23	6 26	6 31	6 36	6 42	6 45	6 48	6 51	6 55	6 59
9	6 5	6 10	6 16	6 23	6 27	6 32	6 37	6 43	6 46	6 50	6 53	6 57	7 2
10	6 5	6 10	6 17	6 24	6 28	6 33	6 38	6 45	6 48	6 51	6 55	6 59	7 4
11	6 5	6 10	6 17	6 24	6 29	6 34	6 40	6 46	6 50	6 53	6 57	7 2	7 7
12	6 4	6 10	6 17	6 25	6 29	6 35	6 41	6 48	6 51	6 55	6 59	7 4	7 9
13	6 4	6 10	6 17	6 26	6 30	6 36	6 42	6 50	6 53	6 57	7 1	7 6	7 12
14	6 4	6 10	6 18	6 26	6 31	6 37	6 43	6 51	6 55	6 59	7 3	7 8	7 14
15	6 4	6 10	6 18	6 27	6 32	6 38	6 45	6 53	6 57	7 1	7 5	7 10	7 16
16	6 3	6 10	6 18	6 27	6 33	6 39	6 46	6 54	6 58	7 3	7 7	7 13	7 19
17	6 3	6 10	6 19	6 28	6 33	6 40	6 47	6 56	7 0	7 4	7 9	7 15	7 21
18	6 3	6 10	6 19	6 29	6 34	6 41	6 48	6 57	7 2	7 6	7 12	7 17	7 24
19	6 3	6 11	6 19	6 29	6 35	6 42	6 50	6 59	7 3	7 8	7 14	7 20	7 26
20	6 2	6 11	6 20	6 30	6 36	6 43	6 51	7 0	7 5	7 10	7 16	7 22	7 29
21	6 2	6 11	6 20	6 30	6 37	6 44	6 52	7 2	7 7	7 12	7 18	7 24	7 31
22	6 2	6 11	6 20	6 31	6 38	6 45	6 53	7 4	7 8	7 14	7 20	7 26	7 34
23	6 2	6 11	6 20	6 32	6 38	6 46	6 55	7 5	7 10	7 16	7 22	7 28	7 36
24	6 2	6 11	6 21	6 32	6 39	6 47	6 56	7 7	7 12	7 18	7 24	7 31	7 39
25	6 2	6 11	6 21	6 33	6 40	6 48	6 57	7 8	7 14	7 19	7 26	7 33	7 41
26	6 1	6 11	6 22	6 34	6 41	6 49	6 58	7 10	7 15	7 21	7 28	7 35	7 44
27	6 1	6 11	6 22	6 34	6 42	6 50	7 0	7 11	7 17	7 23	7 30	7 38	7 46
28	6 1	6 11	6 22	6 35	6 42	6 51	7 1	7 13	7 19	7 25	7 32	7 40	7 49
29	6 1	6 11	6 22	6 36	6 43	6 52	7 2	7 14	7 20	7 27	7 34	7 42	7 51
30	6 1	6 11	6 23	6 36	6 44	6 53	7 3	7 16	7 22	7 29	7 36	7 44	7 54
May 1	6 0	6 11	6 23	6 37	6 45	6 54	7 5	7 18	7 24	7 30	7 38	7 46	7 56
2	6 0	6 12	6 24	6 38	6 46	6 55	7 6	7 19	7 25	7 32	7 40	7 49	7 58
3	6 0	6 12	6 24	6 38	6 46	6 56	7 7	7 21	7 27	7 34	7 42	7 51	8 1
4	6 0	6 12	6 24	6 39	6 47	6 57	7 8	7 22	7 29	7 36	7 44	7 53	8 4
5	6 0	6 12	6 25	6 40	6 48	6 58	7 10	7 24	7 30	7 38	7 46	7 55	8 6
6	6 0	6 12	6 25	6 40	6 49	6 59	7 11	7 25	7 32	7 40	7 48	7 57	8 8
7	6 0	6 12	6 26	6 41	6 50	7 0	7 12	7 27	7 34	7 41	7 50	8 0	8 11
8	6 0	6 12	6 26	6 41	6 50	7 1	7 13	7 28	7 35	7 43	7 52	8 2	8 13
9	6 0	6 13	6 26	6 42	6 51	7 2	7 14	7 30	7 37	7 45	7 54	8 4	8 16
10	6 0	6 13	6 27	6 43	6 52	7 3	7 16	7 31	7 38	7 47	7 56	8 6	8 18
11	6 0	6 13	6 27	6 43	6 53	7 4	7 17	7 33	7 40	7 48	7 58	8 8	8 21
12	6 0	6 13	6 28	6 44	6 54	7 5	7 18	7 34	7 42	7 50	8 0	8 10	8 23
13	6 0	6 13	6 28	6 45	6 54	7 6	7 19	7 36	7 43	7 52	8 2	8 13	8 25
14	6 0	6 13	6 28	6 45	6 55	7 7	7 20	7 37	7 45	7 54	8 3	8 15	8 28
15	6 0	6 14	6 29	6 46	6 56	7 8	7 22	7 38	7 46	7 55	8 5	8 17	8 30
16	6 0	6 14	6 29	6 46	6 57	7 9	7 23	7 40	7 48	7 57	8 7	8 19	8 32
17	6 0	6 14	6 29	6 47	6 58	7 10	7 24	7 41	7 49	7 58	8 9	8 21	8 35
18	6 0	6 14	6 30	6 48	6 58	7 10	7 25	7 42	7 51	8 0	8 11	8 23	8 37

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 19

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minu the station is west of the standard meridian, or decrease the local time by the number of minu the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h
May 17	17 53	17 38	17 23	17 5	16 54	16 42	16 28	16 11	16 2	15 53	15 43	15 30	15
18	17 53	17 38	17 23	17 4	16 54	16 42	16 27	16 10	16 1	15 52	15 41	15 29	15
19	17 53	17 38	17 22	17 4	16 53	16 41	16 26	16 8	16 0	15 50	15 39	15 27	15
20	17 53	17 38	17 22	17 4	16 53	16 40	16 25	16 7	15 58	15 49	15 38	15 25	15
21	17 53	17 38	17 22	17 3	16 52	16 39	16 24	16 6	15 57	15 47	15 36	15 23	15
22	17 53	17 38	17 21	17 2	16 51	16 38	16 23	16 5	15 56	15 46	15 34	15 21	15
23	17 53	17 38	17 21	17 2	16 51	16 38	16 23	16 4	15 54	15 44	15 33	15 20	15
24	17 53	17 38	17 21	17 2	16 50	16 37	16 22	16 2	15 53	15 43	15 31	15 18	15
25	17 53	17 38	17 21	17 1	16 50	16 37	16 21	16 1	15 52	15 42	15 30	15 16	15
26	17 53	17 38	17 21	17 1	16 49	16 36	16 20	16 0	15 51	15 41	15 28	15 15	14
27	17 54	17 38	17 20	17 0	16 49	16 35	16 19	16 0	15 50	15 40	15 27	15 13	14
28	17 54	17 37	17 20	17 0	16 48	16 35	16 19	15 59	15 49	15 38	15 26	15 12	14
29	17 54	17 37	17 20	17 0	16 48	16 34	16 18	15 57	15 48	15 37	15 25	15 10	14
30	17 54	17 38	17 20	17 0	16 48	16 34	16 17	15 57	15 47	15 36	15 24	15 9	14
31	17 54	17 38	17 20	16 59	16 47	16 33	16 17	15 56	15 46	15 35	15 22	15 8	14
June 1	17 54	17 38	17 20	16 59	16 47	16 33	16 16	15 55	15 45	15 34	15 21	15 6	14
2	17 54	17 38	17 20	16 59	16 47	16 32	16 16	15 55	15 45	15 33	15 20	15 5	14
3	17 54	17 38	17 20	16 59	16 46	16 32	16 15	15 54	15 44	15 32	15 19	15 4	14
4	17 55	17 38	17 20	16 58	16 46	16 32	16 15	15 53	15 43	15 32	15 18	15 3	14
5	17 55	17 38	17 20	16 58	16 46	16 32	16 14	15 53	15 42	15 31	15 18	15 2	14
6	17 55	17 38	17 20	16 58	16 46	16 31	16 14	15 52	15 42	15 30	15 17	15 1	14
7	17 55	17 38	17 20	16 58	16 46	16 31	16 14	15 52	15 41	15 30	15 16	15 0	14
8	17 55	17 38	17 20	16 58	16 46	16 31	16 13	15 52	15 41	15 29	15 15	14 59	14
9	17 56	17 38	17 20	16 58	16 45	16 31	16 13	15 51	15 40	15 29	15 15	14 59	14
10	17 56	17 38	17 20	16 58	16 45	16 30	16 13	15 51	15 40	15 28	15 14	14 58	14
11	17 56	17 38	17 20	16 58	16 45	16 30	16 13	15 50	15 40	15 28	15 14	14 57	14
12	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 40	15 27	15 13	14 57	14
13	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14
14	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14
15	17 57	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14
16	17 57	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14
17	17 57	17 40	17 20	16 59	16 45	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14
18	17 57	17 40	17 21	16 59	16 46	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14
19	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 12	14 56	14
20	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 13	14 56	14
21	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 40	15 27	15 13	14 56	14
22	17 58	17 41	17 22	17 0	16 46	16 31	16 13	15 51	15 40	15 27	15 13	14 56	14
23	17 58	17 41	17 22	17 0	16 47	16 32	16 14	15 51	15 40	15 28	15 14	14 57	14
24	17 59	17 41	17 22	17 0	16 47	16 32	16 14	15 51	15 40	15 28	15 14	14 57	14
25	17 59	17 41	17 22	17 0	16 47	16 32	16 14	15 52	15 41	15 29	15 14	14 58	14
26	17 59	17 41	17 22	17 0	16 48	16 33	16 15	15 52	15 41	15 29	15 15	14 58	14
27	17 59	17 42	17 23	17 1	16 48	16 33	16 15	15 53	15 42	15 30	15 15	14 59	14
28	17 59	17 42	17 23	17 1	16 48	16 33	16 16	15 53	15 42	15 30	15 16	15 0	14
29	18 0	17 42	17 23	17 2	16 49	16 34	16 16	15 54	15 43	15 31	15 17	15 0	14
30	18 0	17 42	17 24	17 2	16 49	16 34	16 16	15 54	15 44	15 32	15 18	15 1	14
July 1	18 0	17 43	17 24	17 2	16 50	16 35	16 17	15 55	15 44	15 32	15 18	15 2	14
2	18 0	17 43	17 24	17 3	16 50	16 35	16 18	15 56	15 45	15 33	15 19	15 3	14

CAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes station is west of the standard meridian, or decrease the local time by the number of minutes station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
18	6 0	6 14	6 30	6 48	6 58	7 10	7 25	7 42	7 51	8 0	8 11	8 23	8 37
19	6 0	6 14	6 30	6 48	6 59	7 11	7 26	7 44	7 52	8 2	8 13	8 25	8 39
20	6 0	6 15	6 31	6 49	7 0	7 12	7 27	7 45	7 54	8 3	8 14	8 27	8 42
21	6 0	6 15	6 31	6 50	7 1	7 13	7 28	7 46	7 55	8 5	8 16	8 29	8 44
22	6 0	6 15	6 31	6 50	7 1	7 14	7 29	7 48	7 57	8 6	8 18	8 31	8 46
23	6 0	6 15	6 32	6 51	7 2	7 15	7 30	7 49	7 58	8 8	8 20	8 33	8 48
24	6 0	6 16	6 32	6 52	7 3	7 16	7 31	7 50	7 59	8 10	8 21	8 35	8 50
25	6 0	6 16	6 33	6 52	7 4	7 17	7 32	7 52	8 1	8 11	8 23	8 36	8 52
26	6 0	6 16	6 33	6 53	7 4	7 17	7 33	7 53	8 2	8 12	8 24	8 38	8 55
27	6 0	6 16	6 34	6 53	7 5	7 18	7 34	7 54	8 3	8 14	8 26	8 40	8 57
28	6 1	6 17	6 34	6 54	7 6	7 19	7 35	7 55	8 5	8 15	8 28	8 42	8 59
29	6 1	6 17	6 34	6 54	7 6	7 20	7 36	7 56	8 6	8 17	8 29	8 44	9 1
30	6 1	6 17	6 35	6 55	7 7	7 21	7 37	7 57	8 7	8 18	8 31	8 45	9 3
31	6 1	6 17	6 35	6 56	7 8	7 21	7 38	7 58	8 8	8 19	8 32	8 47	9 4
e 1	6 1	6 18	6 35	6 56	7 8	7 22	7 39	8 0	8 9	8 20	8 34	8 48	9 6
2	6 1	6 18	6 36	6 57	7 9	7 23	7 40	8 0	8 10	8 22	8 35	8 50	9 8
3	6 2	6 18	6 36	6 57	7 9	7 24	7 40	8 2	8 12	8 23	8 36	8 51	9 10
4	6 2	6 18	6 37	6 58	7 10	7 24	7 41	8 2	8 13	8 24	8 37	8 53	9 11
5	6 2	6 19	6 37	6 58	7 10	7 25	7 42	8 3	8 14	8 25	8 39	8 54	9 13
6	6 2	6 19	6 37	6 59	7 11	7 26	7 43	8 4	8 15	8 26	8 40	8 55	9 14
7	6 2	6 19	6 38	6 59	7 12	7 26	7 43	8 5	8 16	8 27	8 41	8 56	9 16
8	6 2	6 20	6 38	7 0	7 12	7 27	7 44	8 6	8 16	8 28	8 42	8 58	9 17
9	6 3	6 20	6 38	7 0	7 13	7 27	7 45	8 7	8 17	8 29	8 43	8 59	9 18
10	6 3	6 20	6 39	7 0	7 13	7 28	7 45	8 7	8 18	8 30	8 44	9 0	9 20
11	6 3	6 20	6 39	7 1	7 14	7 28	7 46	8 8	8 19	8 31	8 45	9 1	9 21
12	6 3	6 21	6 39	7 1	7 14	7 29	7 46	8 9	8 19	8 32	8 46	9 2	9 22
13	6 4	6 21	6 40	7 2	7 14	7 29	7 47	8 9	8 20	8 32	8 46	9 3	9 23
14	6 4	6 21	6 40	7 2	7 15	7 30	7 48	8 10	8 21	8 33	8 47	9 4	9 24
15	6 4	6 21	6 40	7 2	7 15	7 30	7 48	8 10	8 21	8 34	8 48	9 4	9 25
16	6 4	6 22	6 41	7 2	7 16	7 31	7 48	8 11	8 22	8 34	8 48	9 5	9 25
17	6 4	6 22	6 41	7 3	7 16	7 31	7 49	8 11	8 22	8 34	8 49	9 6	9 26
18	6 4	6 22	6 41	7 3	7 16	7 31	7 49	8 12	8 23	8 35	8 49	9 6	9 26
19	6 5	6 22	6 41	7 4	7 16	7 32	7 50	8 12	8 23	8 35	8 50	9 6	9 27
20	6 5	6 22	6 42	7 4	7 17	7 32	7 50	8 12	8 23	8 36	8 50	9 7	9 27
21	6 5	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 50	9 7	9 28
22	6 5	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 50	9 7	9 28
23	6 6	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 51	9 7	9 28
24	6 6	6 23	6 42	7 4	7 18	7 33	7 50	8 13	8 24	8 36	8 51	9 8	9 28
25	6 6	6 24	6 42	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 51	9 8	9 28
26	6 6	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 51	9 7	9 28
27	6 6	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 50	9 7	9 27
28	6 7	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 50	9 7	9 27
29	6 7	6 24	6 43	7 5	7 18	7 33	7 50	8 13	8 24	8 36	8 50	9 7	9 27
30	6 7	6 24	6 43	7 5	7 18	7 33	7 50	8 13	8 24	8 36	8 50	9 6	9 26
ly 1	6 7	6 25	6 43	7 5	7 18	7 33	7 50	8 13	8 23	8 35	8 49	9 6	9 26
2	6 8	6 25	6 43	7 5	7 18	7 33	7 50	8 12	8 23	8 35	8 49	9 5	9 25
3	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 24

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 19

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minu the station is west of the standard meridian, or decrease the local time by the number of minu the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h
July 1	18 0	17 43	17 24	17 2	16 50	16 35	16 17	15 55	15 44	15 32	15 18	15 2	14
2	18 0	17 43	17 24	17 3	16 50	16 35	16 18	15 56	15 45	15 33	15 19	15 3	14
3	18 0	17 43	17 25	17 3	16 50	16 36	16 18	15 56	15 46	15 34	15 20	15 4	14
4	18 1	17 44	17 25	17 4	16 51	16 36	16 19	15 57	15 47	15 35	15 21	15 5	14
5	18 1	17 44	17 25	17 4	16 51	16 37	16 20	15 58	15 47	15 36	15 22	15 6	14
6	18 1	17 44	17 26	17 4	16 52	16 38	16 20	15 59	15 48	15 37	15 23	15 8	14
7	18 1	17 44	17 26	17 5	16 52	16 38	16 21	16 0	15 49	15 38	15 24	15 9	14
8	18 1	17 44	17 26	17 5	16 53	16 39	16 22	16 0	15 50	15 39	15 26	15 10	14
9	18 2	17 45	17 27	17 6	16 54	16 40	16 22	16 1	15 51	15 40	15 27	15 12	14
10	18 2	17 45	17 27	17 6	16 54	16 40	16 23	16 2	15 52	15 41	15 28	15 13	14
11	18 2	17 45	17 28	17 7	16 55	16 41	16 24	16 3	15 53	15 42	15 30	15 14	14
12	18 2	17 46	17 28	17 8	16 55	16 42	16 25	16 4	15 55	15 44	15 31	15 16	14
13	18 2	17 46	17 28	17 8	16 56	16 42	16 26	16 6	15 56	15 45	15 32	15 18	14
14	18 2	17 46	17 29	17 8	16 57	16 43	16 27	16 6	15 57	15 46	15 34	15 19	14
15	18 2	17 46	17 29	17 9	16 57	16 44	16 28	16 8	15 58	15 47	15 35	15 21	14
16	18 2	17 46	17 29	17 10	16 58	16 44	16 28	16 9	15 59	15 49	15 37	15 23	14
17	18 2	17 47	17 30	17 10	16 59	16 45	16 29	16 10	16 0	15 50	15 38	15 24	14
18	18 2	17 47	17 30	17 11	16 59	16 46	16 30	16 11	16 2	15 52	15 40	15 26	14
19	18 3	17 47	17 30	17 11	17 0	16 47	16 31	16 12	16 3	15 53	15 41	15 28	14
20	18 3	17 47	17 31	17 12	17 1	16 48	16 32	16 14	16 4	15 54	15 43	15 30	14
21	18 3	17 48	17 31	17 12	17 1	16 49	16 33	16 15	16 6	15 56	15 45	15 32	15
22	18 3	17 48	17 32	17 13	17 2	16 49	16 34	16 16	16 7	15 58	15 46	15 34	15
23	18 3	17 48	17 32	17 14	17 3	16 50	16 36	16 17	16 9	15 59	15 48	15 36	15
24	18 3	17 48	17 32	17 14	17 4	16 51	16 37	16 19	16 10	16 1	15 50	15 38	15
25	18 3	17 48	17 33	17 15	17 4	16 52	16 38	16 20	16 12	16 2	15 52	15 39	15
26	18 3	17 48	17 33	17 15	17 5	16 53	16 39	16 21	16 13	16 4	15 53	15 41	15
27	18 3	17 49	17 34	17 16	17 6	16 54	16 40	16 22	16 14	16 5	15 55	15 43	15
28	18 3	17 49	17 34	17 17	17 6	16 55	16 41	16 24	16 16	16 7	15 57	15 45	15
29	18 3	17 49	17 34	17 17	17 7	16 56	16 42	16 25	16 17	16 9	15 58	15 47	15
30	18 3	17 49	17 35	17 18	17 8	16 56	16 43	16 27	16 19	16 10	16 0	15 50	15
31	18 3	17 49	17 35	17 18	17 9	16 57	16 44	16 28	16 20	16 12	16 2	15 52	15
Aug. 1	18 3	17 50	17 35	17 19	17 9	16 58	16 46	16 30	16 22	16 14	16 4	15 54	15
2	18 3	17 50	17 36	17 20	17 10	16 59	16 47	16 31	16 24	16 15	16 6	15 56	15
3	18 2	17 50	17 36	17 20	17 11	17 0	16 48	16 32	16 25	16 17	16 8	15 58	15
4	18 2	17 50	17 36	17 21	17 12	17 1	16 49	16 34	16 27	16 19	16 10	16 0	15
5	18 2	17 50	17 37	17 21	17 12	17 2	16 50	16 35	16 28	16 20	16 12	16 2	15
6	18 2	17 50	17 37	17 22	17 13	17 3	16 51	16 37	16 30	16 22	16 14	16 4	15
7	18 2	17 50	17 37	17 23	17 14	17 4	16 52	16 38	16 31	16 24	16 16	16 6	15
8	18 2	17 50	17 38	17 23	17 15	17 5	16 54	16 40	16 33	16 26	16 18	16 9	15
9	18 2	17 50	17 38	17 24	17 16	17 6	16 55	16 41	16 35	16 28	16 20	16 11	16
10	18 2	17 50	17 38	17 24	17 16	17 7	16 56	16 42	16 36	16 29	16 22	16 13	16
11	18 2	17 51	17 39	17 25	17 17	17 8	16 57	16 44	16 38	16 31	16 24	16 15	16
12	18 2	17 51	17 39	17 26	17 18	17 9	16 58	16 45	16 40	16 33	16 26	16 17	16
13	18 1	17 51	17 39	17 26	17 18	17 10	17 0	16 47	16 41	16 35	16 27	16 19	16
14	18 1	17 51	17 40	17 27	17 19	17 11	17 1	16 48	16 43	16 36	16 29	16 21	16
15	18 1	17 51	17 40	17 27	17 20	17 12	17 2	16 50	16 44	16 38	16 31	16 24	16
16	18 1	17 51	17 40	17 28	17 21	17 12	17 3	16 51	16 46	16 40	16 33	16 26	16

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes he station is west of the standard meridian, or decrease the local time by the number of minutes he station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Date.	Lat. 0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
ly 2	6 8	6 25	6 43	7 5	7 18	7 33	7 50	8 12	8 23	8 35	8 49	9 5	9 25
3	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 24
4	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 23
5	6 8	6 25	6 43	7 5	7 18	7 32	7 49	8 11	8 22	8 33	8 47	9 3	9 22
6	6 8	6 25	6 43	7 5	7 17	7 32	7 49	8 11	8 21	8 33	8 46	9 2	9 21
7	6 8	6 25	6 43	7 5	7 17	7 32	7 49	8 10	8 20	8 32	8 46	9 1	9 20
8	6 8	6 25	6 43	7 4	7 17	7 31	7 48	8 10	8 20	8 31	8 45	9 0	9 19
9	6 8	6 25	6 43	7 4	7 16	7 31	7 48	8 9	8 19	8 30	8 44	8 59	9 18
10	6 9	6 25	6 43	7 4	7 16	7 30	7 47	8 8	8 18	8 30	8 43	8 58	9 16
11	6 9	6 25	6 43	7 4	7 16	7 30	7 47	8 8	8 18	8 29	8 42	8 57	9 15
12	6 9	6 25	6 43	7 4	7 16	7 30	7 46	8 7	8 17	8 28	8 41	8 56	9 13
13	6 9	6 25	6 43	7 3	7 15	7 29	7 46	8 6	8 16	8 27	8 39	8 54	9 12
14	6 9	6 25	6 43	7 3	7 15	7 29	7 45	8 5	8 15	8 26	8 38	8 53	9 10
15	6 9	6 25	6 43	7 3	7 15	7 28	7 44	8 4	8 14	8 25	8 37	8 51	9 8
16	6 9	6 25	6 42	7 2	7 14	7 28	7 44	8 3	8 13	8 24	8 36	8 50	9 7
17	6 9	6 25	6 42	7 2	7 14	7 27	7 43	8 2	8 12	8 22	8 34	8 48	9 5
18	6 10	6 25	6 42	7 2	7 13	7 26	7 42	8 1	8 11	8 21	8 33	8 47	9 3
19	6 10	6 25	6 42	7 1	7 12	7 26	7 41	8 0	8 10	8 20	8 32	8 45	9 1
20	6 10	6 25	6 42	7 1	7 12	7 25	7 40	7 59	8 8	8 18	8 30	8 43	8 59
21	6 10	6 25	6 41	7 0	7 11	7 24	7 39	7 58	8 7	8 17	8 28	8 42	8 57
22	6 10	6 25	6 41	7 0	7 11	7 23	7 38	7 57	8 6	8 16	8 27	8 40	8 55
23	6 10	6 25	6 41	6 59	7 10	7 23	7 38	7 56	8 5	8 14	8 25	8 38	8 53
24	6 10	6 24	6 40	6 59	7 10	7 22	7 36	7 55	8 3	8 13	8 24	8 36	8 51
25	6 10	6 24	6 40	6 58	7 9	7 21	7 36	7 53	8 2	8 11	8 22	8 34	8 49
26	6 10	6 24	6 40	6 58	7 8	7 20	7 34	7 52	8 0	8 10	8 20	8 32	8 46
27	6 10	6 24	6 39	6 57	7 7	7 19	7 33	7 51	7 59	8 8	8 18	8 30	8 44
28	6 10	6 24	6 39	6 56	7 7	7 18	7 32	7 49	7 57	8 6	8 17	8 28	8 42
29	6 10	6 24	6 38	6 56	7 6	7 17	7 31	7 48	7 56	8 5	8 15	8 26	8 39
30	6 10	6 23	6 38	6 55	7 5	7 16	7 30	7 46	7 54	8 3	8 13	8 24	8 37
31	6 10	6 23	6 37	6 54	7 4	7 15	7 29	7 45	7 53	8 1	8 11	8 22	8 35
g. 1	6 10	6 23	6 37	6 54	7 3	7 14	7 27	7 44	7 51	7 59	8 9	8 20	8 32
2	6 9	6 22	6 37	6 53	7 2	7 13	7 26	7 42	7 49	7 58	8 7	8 17	8 30
3	6 9	6 22	6 36	6 52	7 2	7 12	7 25	7 40	7 48	7 56	8 5	8 15	8 27
4	6 9	6 22	6 36	6 51	7 1	7 11	7 24	7 39	7 46	7 54	8 3	8 13	8 25
5	6 9	6 22	6 35	6 50	7 0	7 10	7 22	7 37	7 44	7 52	8 1	8 11	8 22
6	6 9	6 21	6 35	6 50	6 59	7 9	7 21	7 36	7 42	7 50	7 59	8 8	8 19
7	6 9	6 21	6 34	6 49	6 58	7 8	7 19	7 34	7 40	7 48	7 56	8 6	8 17
8	6 9	6 21	6 33	6 48	6 57	7 6	7 18	7 32	7 39	7 46	7 54	8 3	8 14
9	6 9	6 20	6 33	6 47	6 56	7 5	7 16	7 30	7 37	7 44	7 52	8 1	8 11
10	6 8	6 20	6 32	6 46	6 54	7 4	7 15	7 28	7 35	7 42	7 50	7 59	8 9
11	6 8	6 20	6 32	6 45	6 54	7 3	7 14	7 27	7 33	7 40	7 48	7 56	8 6
12	6 8	6 19	6 31	6 44	6 52	7 2	7 12	7 25	7 31	7 38	7 45	7 54	8 3
13	6 8	6 19	6 30	6 44	6 51	7 0	7 10	7 23	7 29	7 36	7 43	7 51	8 0
14	6 8	6 18	6 30	6 43	6 50	6 59	7 9	7 21	7 27	7 34	7 41	7 48	7 58
15	6 8	6 18	6 29	6 42	6 49	6 58	7 7	7 20	7 25	7 31	7 38	7 46	7 55
16	6 8	6 18	6 28	6 41	6 48	6 56	7 6	7 18	7 23	7 29	7 36	7 44	7 52
17	6 7	6 17	6 27	6 40	6 47	6 55	7 4	7 16	7 21	7 27	7 34	7 41	7 49

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	18 1	17 51	17 40	17 28	17 21	17 12	17 3	16 51	16 46	16 40	16 33	16 26	16 17
17	18 0	17 51	17 41	17 28	17 22	17 14	17 4	16 53	16 48	16 42	16 35	16 28	16 20
18	18 0	17 51	17 41	17 29	17 22	17 14	17 6	16 54	16 49	16 44	16 37	16 30	16 22
19	18 0	17 51	17 41	17 30	17 23	17 15	17 7	16 56	16 51	16 45	16 39	16 32	16 25
20	18 0	17 51	17 41	17 30	17 24	17 16	17 8	16 57	16 52	16 47	16 41	16 34	16 27
21	18 0	17 51	17 42	17 31	17 24	17 17	17 9	16 59	16 54	16 49	16 43	16 37	16 29
22	17 59	17 51	17 42	17 31	17 25	17 18	17 10	17 0	16 56	16 51	16 45	16 39	16 32
23	17 59	17 51	17 42	17 32	17 26	17 19	17 11	17 2	16 57	16 52	16 47	16 41	16 34
24	17 59	17 51	17 42	17 33	17 27	17 20	17 13	17 3	16 59	16 54	16 49	16 43	16 36
25	17 58	17 51	17 43	17 33	17 28	17 21	17 14	17 5	17 1	16 56	16 51	16 45	16 39
26	17 58	17 51	17 43	17 34	17 28	17 22	17 15	17 6	17 2	16 58	16 53	16 47	16 41
27	17 58	17 51	17 43	17 34	17 29	17 23	17 16	17 8	17 4	17 0	16 55	16 50	16 44
28	17 58	17 51	17 43	17 35	17 30	17 24	17 17	17 9	17 6	17 1	16 57	16 52	16 46
29	17 57	17 51	17 44	17 35	17 30	17 25	17 18	17 11	17 7	17 3	16 59	16 54	16 48
30	17 57	17 51	17 44	17 36	17 31	17 26	17 20	17 12	17 9	17 5	17 1	16 56	16 51
31	17 57	17 51	17 44	17 36	17 32	17 27	17 21	17 14	17 10	17 7	17 3	16 58	16 53
Sept. 1	17 56	17 51	17 44	17 37	17 33	17 28	17 22	17 15	17 12	17 8	17 5	17 0	16 56
2	17 56	17 51	17 45	17 38	17 33	17 29	17 23	17 17	17 14	17 10	17 7	17 2	16 58
3	17 56	17 50	17 45	17 38	17 34	17 30	17 24	17 18	17 15	17 12	17 9	17 5	17 0
4	17 56	17 50	17 45	17 39	17 35	17 31	17 26	17 20	17 17	17 14	17 10	17 7	17 3
5	17 55	17 50	17 45	17 39	17 36	17 32	17 27	17 21	17 19	17 16	17 12	17 9	17 5
6	17 55	17 50	17 46	17 40	17 36	17 32	17 28	17 23	17 20	17 18	17 14	17 11	17 7
7	17 54	17 50	17 46	17 40	17 37	17 34	17 29	17 24	17 22	17 19	17 16	17 13	17 10
8	17 54	17 50	17 46	17 41	17 38	17 34	17 30	17 26	17 24	17 21	17 18	17 15	17 12
9	17 54	17 50	17 46	17 41	17 39	17 35	17 32	17 27	17 25	17 23	17 20	17 18	17 14
10	17 54	17 50	17 46	17 42	17 39	17 36	17 33	17 29	17 27	17 25	17 22	17 20	17 17
11	17 53	17 50	17 47	17 42	17 40	17 37	17 34	17 30	17 28	17 26	17 24	17 22	17 19
12	17 53	17 50	17 47	17 43	17 41	17 38	17 35	17 32	17 30	17 28	17 26	17 24	17 22
13	17 53	17 50	17 47	17 44	17 42	17 39	17 36	17 33	17 32	17 30	17 28	17 26	17 24
14	17 52	17 50	17 47	17 44	17 42	17 40	17 38	17 35	17 33	17 32	17 30	17 28	17 26
15	17 52	17 50	17 47	17 45	17 43	17 41	17 39	17 36	17 35	17 34	17 32	17 30	17 28
16	17 51	17 50	17 48	17 45	17 44	17 42	17 40	17 38	17 37	17 35	17 34	17 32	17 31
17	17 51	17 50	17 48	17 46	17 44	17 43	17 41	17 39	17 38	17 37	17 36	17 35	17 33
18	17 51	17 49	17 48	17 46	17 45	17 44	17 42	17 41	17 40	17 39	17 38	17 37	17 36
19	17 50	17 49	17 48	17 47	17 46	17 45	17 44	17 42	17 42	17 41	17 40	17 39	17 38
20	17 50	17 49	17 48	17 47	17 47	17 46	17 45	17 44	17 43	17 42	17 42	17 41	17 40
21	17 50	17 49	17 49	17 48	17 47	17 47	17 46	17 45	17 45	17 44	17 44	17 43	17 43
22	17 49	17 49	17 49	17 48	17 48	17 48	17 47	17 47	17 46	17 46	17 46	17 45	17 45
23	17 49	17 49	17 49	17 49	17 49	17 49	17 48	17 48	17 48	17 48	17 48	17 47	17 47
24	17 48	17 49	17 49	17 50	17 50	17 50	17 50	17 50	17 50	17 50	17 50	17 50	17 50
25	17 48	17 49	17 50	17 50	17 50	17 51	17 51	17 51	17 51	17 52	17 52	17 52	17 52
26	17 48	17 49	17 50	17 51	17 51	17 52	17 52	17 53	17 53	17 53	17 54	17 54	17 54
27	17 48	17 49	17 50	17 51	17 52	17 53	17 53	17 54	17 55	17 55	17 56	17 56	17 57
28	17 47	17 49	17 50	17 52	17 53	17 54	17 55	17 56	17 56	17 57	17 58	17 58	17 59
29	17 47	17 49	17 50	17 52	17 53	17 55	17 56	17 57	17 58	17 59	18 0	18 0	18 2
30	17 47	17 49	17 51	17 53	17 54	17 56	17 57	17 59	18 0	18 1	18 2	18 2	18 4
Oct. 1	17 46	17 49	17 51	17 53	17 55	17 56	17 58	18 0	18 1	18 2	18 4	18 5	18 6

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

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To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 17	6 7	6 17	6 27	6 40	6 47	6 55	7 4	7 16	7 21	7 27	7 34	7 41	7 49
18	6 7	6 16	6 27	6 39	6 46	6 53	7 3	7 14	7 19	7 25	7 31	7 38	7 46
19	6 7	6 16	6 26	6 38	6 44	6 52	7 1	7 12	7 17	7 23	7 29	7 36	7 44
20	6 7	6 16	6 25	6 37	6 43	6 51	6 59	7 10	7 15	7 20	7 26	7 33	7 41
21	6 6	6 15	6 25	6 36	6 42	6 49	6 58	7 8	7 13	7 18	7 24	7 31	7 38
22	6 6	6 15	6 24	6 34	6 41	6 48	6 56	7 6	7 11	7 16	7 22	7 28	7 35
23	6 6	6 14	6 23	6 33	6 39	6 46	6 54	7 4	7 8	7 14	7 19	7 25	7 32
24	6 6	6 14	6 23	6 32	6 38	6 45	6 52	7 2	7 6	7 11	7 16	7 22	7 29
25	6 5	6 13	6 22	6 31	6 37	6 43	6 51	7 0	7 4	7 9	7 14	7 20	7 26
26	6 5	6 13	6 21	6 30	6 36	6 42	6 49	6 58	7 2	7 6	7 12	7 17	7 23
27	6 5	6 12	6 20	6 29	6 34	6 40	6 47	6 56	7 0	7 4	7 9	7 14	7 20
28	6 4	6 12	6 19	6 28	6 33	6 39	6 46	6 54	6 58	7 2	7 6	7 12	7 18
29	6 4	6 11	6 18	6 27	6 32	6 37	6 44	6 52	6 55	6 59	7 4	7 9	7 14
30	6 4	6 10	6 17	6 25	6 30	6 36	6 42	6 50	6 53	6 57	7 1	7 6	7 12
31	6 4	6 10	6 16	6 24	6 29	6 34	6 40	6 48	6 51	6 55	6 59	7 3	7 8
Sept. 1	6 3	6 9	6 16	6 23	6 28	6 33	6 38	6 45	6 49	6 52	6 56	7 1	7 6
2	6 3	6 9	6 15	6 22	6 26	6 31	6 36	6 43	6 46	6 50	6 54	6 58	7 2
3	6 3	6 8	6 14	6 21	6 25	6 29	6 35	6 41	6 44	6 47	6 51	6 55	7 0
4	6 2	6 8	6 13	6 20	6 24	6 28	6 33	6 39	6 42	6 45	6 48	6 52	6 56
5	6 2	6 7	6 12	6 18	6 22	6 26	6 31	6 37	6 40	6 43	6 46	6 50	6 54
6	6 2	6 6	6 11	6 17	6 21	6 24	6 29	6 35	6 37	6 40	6 43	6 47	6 50
7	6 1	6 6	6 10	6 16	6 19	6 23	6 27	6 32	6 35	6 38	6 41	6 44	6 48
8	6 1	6 5	6 10	6 15	6 18	6 21	6 25	6 30	6 33	6 35	6 38	6 41	6 44
9	6 0	6 4	6 9	6 14	6 16	6 20	6 24	6 28	6 30	6 33	6 35	6 38	6 41
10	6 0	6 4	6 8	6 12	6 15	6 18	6 22	6 26	6 28	6 30	6 33	6 35	6 38
11	6 0	6 3	6 7	6 11	6 14	6 16	6 20	6 24	6 26	6 28	6 30	6 33	6 35
12	6 0	6 3	6 6	6 10	6 12	6 15	6 18	6 22	6 23	6 25	6 27	6 30	6 32
13	5 59	6 2	6 5	6 9	6 11	6 13	6 16	6 20	6 21	6 23	6 25	6 27	6 29
14	5 59	6 1	6 4	6 7	6 9	6 12	6 14	6 17	6 19	6 20	6 22	6 24	6 26
15	5 58	6 1	6 3	6 6	6 8	6 10	6 12	6 15	6 16	6 18	6 19	6 21	6 23
16	5 58	6 0	6 2	6 5	6 6	6 8	6 10	6 13	6 14	6 15	6 17	6 18	6 20
17	5 58	6 0	6 1	6 4	6 5	6 7	6 8	6 11	6 12	6 13	6 14	6 16	6 17
18	5 58	5 59	6 0	6 2	6 4	6 5	6 6	6 8	6 9	6 10	6 11	6 13	6 14
19	5 57	5 58	6 0	6 1	6 2	6 3	6 5	6 6	6 7	6 8	6 9	6 10	6 11
20	5 57	5 58	5 59	6 0	6 1	6 2	6 3	6 3	6 5	6 5	6 6	6 7	6 8
21	5 56	5 57	5 58	5 59	5 59	6 0	6 1	6 2	6 2	6 3	6 3	6 4	6 5
22	5 56	5 56	5 57	5 57	5 58	5 59	5 59	6 0	6 0	6 0	6 1	6 1	6 2
23	5 56	5 56	5 56	5 56	5 57	5 57	5 57	5 57	5 58	5 58	5 58	5 58	5 59
24	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 56	5 56
25	5 55	5 54	5 54	5 54	5 53	5 53	5 53	5 53	5 53	5 53	5 53	5 53	5 53
26	5 55	5 54	5 53	5 52	5 52	5 52	5 51	5 51	5 51	5 50	5 50	5 50	5 50
27	5 54	5 53	5 52	5 51	5 50	5 50	5 49	5 48	5 48	5 48	5 47	5 47	5 46
28	5 54	5 53	5 51	5 50	5 49	5 48	5 47	5 46	5 46	5 45	5 45	5 44	5 44
29	5 54	5 52	5 50	5 49	5 48	5 47	5 46	5 44	5 44	5 43	5 42	5 41	5 40
30	5 53	5 51	5 50	5 47	5 46	5 45	5 44	5 42	5 41	5 40	5 40	5 38	5 37
Oct. 1	5 53	5 51	5 49	5 46	5 45	5 44	5 42	5 40	5 39	5 38	5 37	5 36	5 34
2	5 53	5 50	5 48	5 45	5 44	5 42	5 40	5 38	5 37	5 36	5 34	5 33	5 31

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 1	17 46	17 49	17 51	17 53	17 55	17 56	17 58	18 0	18 1	18 2	18 4	18 5	18 6
2	17 46	17 49	17 51	17 54	17 56	17 58	18 0	18 2	18 3	18 4	18 6	18 7	18 9
3	17 46	17 48	17 52	17 55	17 56	17 58	18 1	18 4	18 5	18 6	18 8	18 9	18 11
4	17 45	17 48	17 52	17 55	17 57	18 0	18 2	18 5	18 6	18 8	18 10	18 11	18 13
5	17 45	17 48	17 52	17 56	17 58	18 0	18 3	18 7	18 8	18 10	18 12	18 14	18 16
6	17 45	17 48	17 52	17 56	17 59	18 2	18 5	18 8	18 10	18 12	18 14	18 16	18 18
7	17 44	17 48	17 52	17 57	18 0	18 2	18 6	18 10	18 12	18 14	18 16	18 18	18 20
8	17 44	17 48	17 53	17 58	18 0	18 4	18 7	18 11	18 13	18 15	18 18	18 20	18 23
9	17 44	17 48	17 53	17 58	18 1	18 5	18 8	18 13	18 15	18 17	18 20	18 22	18 25
10	17 44	17 48	17 53	17 59	18 2	18 6	18 10	18 14	18 17	18 19	18 22	18 25	18 28
11	17 43	17 48	17 54	18 0	18 3	18 7	18 11	18 16	18 18	18 21	18 24	18 27	18 30
12	17 43	17 48	17 54	18 0	18 4	18 8	18 12	18 18	18 20	18 23	18 26	18 29	18 33
13	17 43	17 48	17 54	18 1	18 4	18 9	18 14	18 19	18 22	18 25	18 28	18 31	18 35
14	17 43	17 48	17 55	18 1	18 5	18 10	18 15	18 21	18 24	18 27	18 30	18 34	18 38
15	17 42	17 48	17 55	18 2	18 6	18 11	18 16	18 22	18 26	18 28	18 32	18 36	18 40
16	17 42	17 49	17 55	18 3	18 7	18 12	18 18	18 24	18 27	18 30	18 34	18 38	18 43
17	17 42	17 49	17 56	18 4	18 8	18 13	18 19	18 26	18 29	18 32	18 36	18 40	18 45
18	17 42	17 49	17 56	18 4	18 9	18 14	18 20	18 27	18 31	18 34	18 38	18 43	18 48
19	17 42	17 49	17 56	18 5	18 10	18 15	18 21	18 29	18 32	18 36	18 40	18 45	18 50
20	17 42	17 49	17 57	18 6	18 10	18 16	18 23	18 30	18 34	18 38	18 42	18 47	18 53
21	17 41	17 49	17 57	18 6	18 11	18 17	18 24	18 32	18 36	18 40	18 44	18 50	18 55
22	17 41	17 49	17 58	18 7	18 12	18 18	18 26	18 34	18 38	18 42	18 47	18 52	18 58
23	17 41	17 49	17 58	18 8	18 13	18 19	18 27	18 35	18 39	18 44	18 49	18 54	19 0
24	17 41	17 50	17 58	18 8	18 14	18 21	18 28	18 37	18 41	18 46	18 51	18 56	19 3
25	17 41	17 50	17 59	18 9	18 15	18 22	18 29	18 39	18 43	18 48	18 53	18 59	19 5
26	17 41	17 50	17 59	18 10	18 16	18 23	18 31	18 40	18 45	18 50	18 55	19 1	19 8
27	17 41	17 50	18 0	18 11	18 17	18 24	18 32	18 42	18 47	18 52	18 57	19 3	19 10
28	17 40	17 50	18 0	18 11	18 18	18 25	18 34	18 44	18 48	18 54	18 59	19 6	19 13
29	17 40	17 50	18 0	18 12	18 19	18 26	18 35	18 45	18 50	18 56	19 1	19 8	19 16
30	17 40	17 50	18 1	18 13	18 20	18 27	18 36	18 47	18 52	18 58	19 4	19 10	19 18
31	17 40	17 51	18 1	18 14	18 20	18 28	18 38	18 49	18 54	18 59	19 6	19 13	19 21
Nov. 1	17 40	17 51	18 2	18 14	18 21	18 30	18 39	18 50	18 56	19 1	19 8	19 15	19 23
2	17 40	17 51	18 2	18 15	18 22	18 31	18 40	18 52	18 57	19 3	19 10	19 17	19 26
3	17 40	17 51	18 3	18 16	18 23	18 32	18 42	18 54	18 59	19 5	19 12	19 20	19 28
4	17 40	17 52	18 3	18 17	18 24	18 33	18 43	18 55	19 1	19 7	19 14	19 22	19 31
5	17 40	17 52	18 4	18 17	18 25	18 34	18 44	18 57	19 3	19 9	19 16	19 24	19 33
6	17 40	17 52	18 4	18 18	18 26	18 35	18 46	18 59	19 5	19 11	19 18	19 27	19 36
7	17 40	17 52	18 5	18 19	18 27	18 36	18 47	19 0	19 6	19 13	19 20	19 29	19 39
8	17 40	17 52	18 5	18 20	18 28	18 38	18 49	19 2	19 8	19 15	19 23	19 31	19 41
9	17 41	17 53	18 6	18 21	18 29	18 39	18 50	19 4	19 10	19 17	19 25	19 34	19 44
10	17 41	17 53	18 6	18 22	18 30	18 40	18 51	19 5	19 12	19 19	19 27	19 36	19 46
11	17 41	17 54	18 7	18 22	18 31	18 41	18 53	19 7	19 14	19 21	19 29	19 38	19 49
12	17 41	17 54	18 8	18 23	18 32	18 42	18 54	19 9	19 15	19 23	19 31	19 41	19 51
13	17 41	17 54	18 8	18 24	18 33	18 43	18 56	19 10	19 17	19 25	19 33	19 43	19 54
14	17 41	17 54	18 9	18 25	18 34	18 44	18 57	19 12	19 19	19 26	19 35	19 45	19 56
15	17 41	17 55	18 9	18 26	18 35	18 46	18 58	19 14	19 21	19 28	19 37	19 47	19 59
16	17 42	17 55	18 10	18 26	18 36	18 47	19 0	19 15	19 22	19 30	19 39	19 50	20 1

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

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For sunset in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 2	5 53	5 50	5 48	5 45	5 44	5 42	5 40	5 38	5 37	5 36	5 34	5 33	5 31
3	5 52	5 50	5 47	5 44	5 42	5 40	5 38	5 35	5 34	5 33	5 32	5 30	5 28
4	5 52	5 49	5 46	5 43	5 41	5 39	5 36	5 33	5 32	5 31	5 29	5 27	5 26
5	5 52	5 48	5 45	5 41	5 39	5 37	5 34	5 31	5 30	5 28	5 26	5 24	5 22
6	5 52	5 48	5 44	5 40	5 38	5 35	5 32	5 29	5 28	5 26	5 24	5 22	5 20
7	5 51	5 47	5 43	5 39	5 36	5 34	5 31	5 27	5 25	5 23	5 21	5 19	5 16
8	5 51	5 47	5 43	5 38	5 35	5 32	5 29	5 25	5 23	5 21	5 19	5 16	5 14
9	5 51	5 46	5 42	5 37	5 34	5 31	5 27	5 23	5 21	5 18	5 16	5 14	5 10
10	5 50	5 46	5 41	5 36	5 33	5 29	5 25	5 20	5 18	5 16	5 14	5 11	5 8
11	5 50	5 45	5 40	5 34	5 31	5 28	5 23	5 18	5 16	5 14	5 11	5 8	5 5
12	5 50	5 45	5 39	5 33	5 30	5 26	5 22	5 16	5 14	5 11	5 8	5 5	5 2
13	5 50	5 44	5 38	5 32	5 29	5 24	5 20	5 14	5 12	5 9	5 6	5 2	4 59
14	5 49	5 44	5 38	5 31	5 27	5 23	5 18	5 12	5 10	5 7	5 3	5 0	4 56
15	5 49	5 43	5 37	5 30	5 26	5 22	5 16	5 10	5 7	5 4	5 1	4 57	4 53
16	5 49	5 43	5 36	5 29	5 25	5 20	5 15	5 8	5 5	5 2	4 58	4 54	4 50
17	5 49	5 42	5 35	5 28	5 23	5 18	5 13	5 6	5 3	5 0	4 56	4 52	4 47
18	5 49	5 42	5 35	5 27	5 22	5 17	5 11	5 4	5 1	4 57	4 53	4 49	4 44
19	5 48	5 41	5 34	5 26	5 21	5 16	5 9	5 2	4 59	4 55	4 51	4 46	4 41
20	5 48	5 41	5 33	5 25	5 20	5 14	5 8	5 0	4 57	4 53	4 48	4 44	4 38
21	5 48	5 40	5 33	5 24	5 19	5 13	5 6	4 58	4 54	4 50	4 46	4 41	4 36
22	5 48	5 40	5 32	5 23	5 17	5 11	5 4	4 56	4 52	4 48	4 44	4 38	4 32
23	5 48	5 40	5 31	5 22	5 16	5 10	5 3	4 54	4 50	4 46	4 41	4 36	4 30
24	5 48	5 39	5 31	5 21	5 15	5 9	5 1	4 52	4 48	4 44	4 39	4 33	4 27
25	5 48	5 39	5 30	5 20	5 14	5 7	5 0	4 50	4 46	4 42	4 37	4 31	4 24
26	5 47	5 39	5 29	5 19	5 13	5 6	4 58	4 49	4 44	4 40	4 34	4 28	4 22
27	5 47	5 38	5 29	5 18	5 12	5 5	4 57	4 47	4 42	4 37	4 32	4 26	4 19
28	5 47	5 38	5 28	5 17	5 11	5 3	4 55	4 45	4 40	4 35	4 30	4 23	4 16
29	5 47	5 38	5 28	5 16	5 10	5 2	4 54	4 43	4 38	4 33	4 27	4 21	4 14
30	5 47	5 37	5 27	5 15	5 8	5 1	4 52	4 41	4 37	4 31	4 25	4 18	4 11
31	5 47	5 37	5 26	5 14	5 8	5 0	4 51	4 40	4 35	4 29	4 23	4 16	4 8
Nov. 1	5 47	5 37	5 26	5 14	5 6	4 58	4 49	4 38	4 33	4 27	4 21	4 14	4 6
2	5 47	5 36	5 25	5 13	5 6	4 57	4 48	4 36	4 31	4 25	4 18	4 11	4 3
3	5 47	5 36	5 25	5 12	5 4	4 56	4 46	4 34	4 29	4 23	4 16	4 9	4 0
4	5 47	5 36	5 24	5 11	5 4	4 55	4 45	4 33	4 27	4 21	4 14	4 7	3 58
5	5 47	5 36	5 24	5 10	5 3	4 54	4 44	4 31	4 26	4 19	4 12	4 4	3 55
6	5 47	5 36	5 24	5 10	5 2	4 53	4 42	4 30	4 24	4 17	4 10	4 2	3 53
7	5 47	5 36	5 23	5 9	5 1	4 52	4 41	4 28	4 22	4 16	4 8	4 0	3 50
8	5 47	5 35	5 23	5 8	5 0	4 51	4 40	4 27	4 20	4 14	4 6	3 58	3 48
9	5 47	5 35	5 22	5 8	4 59	4 50	4 39	4 25	4 19	4 12	4 4	3 55	3 46
10	5 48	5 35	5 22	5 7	4 58	4 49	4 37	4 24	4 17	4 10	4 2	3 53	3 43
11	5 48	5 35	5 22	5 6	4 58	4 48	4 36	4 22	4 16	4 8	4 0	3 51	3 41
12	5 48	5 35	5 21	5 6	4 57	4 47	4 35	4 21	4 14	4 7	3 58	3 49	3 38
13	5 48	5 35	5 21	5 5	4 56	4 46	4 34	4 19	4 13	4 5	3 57	3 47	3 36
14	5 48	5 35	5 21	5 5	4 56	4 45	4 33	4 18	4 11	4 4	3 55	3 45	3 34
15	5 48	5 35	5 20	5 4	4 55	4 44	4 32	4 17	4 10	4 2	3 53	3 43	3 32
16	5 48	5 35	5 20	5 4	4 54	4 44	4 31	4 16	4 8	4 0	3 52	3 41	3 30
17	5 48	5 35	5 20	5 3	4 54	4 43	4 30	4 14	4 7	3 59	3 50	3 39	3 27

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

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For sunrise in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	17 42	17 55	18 10	18 26	18 36	18 47	19 0	19 15	19 22	19 30	19 39	19 50	20 1
17	17 42	17 56	18 10	18 27	18 37	18 48	19 1	19 17	19 24	19 32	19 42	19 52	20 4
18	17 42	17 56	18 11	18 28	18 38	18 49	19 2	19 18	19 26	19 34	19 44	19 54	20 6
19	17 42	17 57	18 12	18 29	18 39	18 50	19 4	19 20	19 28	19 36	19 46	19 56	20 9
20	17 42	17 57	18 12	18 30	18 40	18 51	19 5	19 22	19 29	19 38	19 48	19 58	20 11
21	17 42	17 57	18 13	18 31	18 41	18 52	19 6	19 23	19 31	19 40	19 49	20 1	20 14
22	17 43	17 58	18 14	18 31	18 42	18 54	19 8	19 24	19 33	19 41	19 51	20 3	20 16
23	17 43	17 58	18 14	18 32	18 43	18 55	19 9	19 26	19 34	19 43	19 53	20 5	20 18
24	17 43	17 59	18 15	18 33	18 44	18 56	19 10	19 28	19 36	19 45	19 55	20 7	20 21
25	17 44	17 59	18 15	18 34	18 45	18 57	19 11	19 29	19 37	19 47	19 57	20 9	20 23
26	17 44	18 0	18 16	18 35	18 46	18 58	19 13	19 30	19 39	19 48	19 59	20 11	20 25
27	17 44	18 0	18 17	18 36	18 47	18 59	19 14	19 32	19 40	19 50	20 1	20 13	20 28
28	17 44	18 1	18 17	18 36	18 48	19 0	19 15	19 33	19 42	19 52	20 2	20 15	20 30
29	17 45	18 1	18 18	18 37	18 48	19 1	19 16	19 35	19 43	19 53	20 4	20 17	20 32
30	17 45	18 2	18 19	18 38	18 49	19 2	19 17	19 36	19 45	19 55	20 6	20 19	20 34
Dec. 1	17 46	18 2	18 19	18 39	18 50	19 3	19 19	19 37	19 46	19 56	20 8	20 21	20 36
2	17 46	18 2	18 20	18 40	18 51	19 4	19 20	19 39	19 48	19 58	20 9	20 22	20 38
3	17 47	18 3	18 20	18 40	18 52	19 5	19 21	19 40	19 49	19 59	20 11	20 24	20 40
4	17 47	18 4	18 21	18 41	18 53	19 6	19 22	19 41	19 50	20 1	20 12	20 26	20 42
5	17 47	18 4	18 22	18 42	18 54	19 7	19 23	19 42	19 52	20 2	20 14	20 27	20 44
6	17 48	18 4	18 22	18 43	18 54	19 8	19 24	19 44	19 53	20 3	20 15	20 29	20 45
7	17 48	18 5	18 23	18 43	18 55	19 9	19 25	19 45	19 54	20 5	20 17	20 30	20 47
8	17 49	18 6	18 24	18 44	18 56	19 10	19 26	19 46	19 55	20 6	20 18	20 32	20 49
9	17 49	18 6	18 24	18 45	18 57	19 10	19 27	19 47	19 56	20 7	20 19	20 33	20 50
10	17 50	18 7	18 25	18 46	18 58	19 11	19 28	19 48	19 58	20 8	20 20	20 35	20 52
11	17 50	18 7	18 25	18 46	18 58	19 12	19 29	19 49	19 59	20 9	20 22	20 36	20 53
12	17 50	18 8	18 26	18 47	18 59	19 13	19 30	19 50	20 0	20 10	20 23	20 37	20 54
13	17 51	18 8	18 26	18 48	19 0	19 14	19 30	19 51	20 0	20 11	20 24	20 38	20 56
14	17 51	18 9	18 27	18 48	19 0	19 14	19 31	19 52	20 1	20 12	20 25	20 40	20 57
15	17 52	18 9	18 28	18 49	19 1	19 15	19 32	19 52	20 2	20 13	20 26	20 40	20 58
16	17 52	18 10	18 28	18 50	19 2	19 16	19 33	19 53	20 3	20 14	20 27	20 42	20 59
17	17 53	18 10	18 29	18 50	19 2	19 16	19 33	19 54	20 4	20 15	20 28	20 42	21 0
18	17 53	18 11	18 29	18 51	19 3	19 17	19 34	19 55	20 5	20 16	20 28	20 43	21 1
19	17 54	18 11	18 30	18 51	19 3	19 18	19 34	19 55	20 5	20 16	20 29	20 44	21 1
20	17 54	18 12	18 30	18 52	19 4	19 18	19 35	19 56	20 6	20 17	20 30	20 44	21 2
21	17 55	18 12	18 31	18 52	19 4	19 19	19 36	19 56	20 6	20 18	20 30	20 45	21 3
22	17 55	18 13	18 31	18 53	19 5	19 19	19 36	19 57	20 7	20 18	20 31	20 46	21 3
23	17 56	18 13	18 32	18 53	19 5	19 20	19 36	19 57	20 7	20 18	20 31	20 46	21 3
24	17 56	18 14	18 32	18 54	19 6	19 20	19 37	19 58	20 8	20 19	20 31	20 46	21 4
25	17 57	18 14	18 33	18 54	19 6	19 20	19 37	19 58	20 8	20 19	20 32	20 46	21 4
26	17 57	18 15	18 33	18 54	19 7	19 21	19 38	19 58	20 8	20 19	20 32	20 47	21 4
27	17 58	18 15	18 34	18 55	19 7	19 21	19 38	19 58	20 8	20 19	20 32	20 47	21 4
28	17 58	18 16	18 34	18 55	19 7	19 21	19 38	19 59	20 8	20 19	20 32	20 47	21 4
29	17 59	18 16	18 34	18 55	19 7	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 4
30	17 59	18 16	18 35	18 56	19 8	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 4
31	18 0	18 17	18 35	18 56	19 8	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 3

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 17	5 48	5 35	5 20	5 3	4 54	4 43	4 30	4 14	4 7	3 59	3 50	3 39	3 27
18	5 49	5 35	5 20	5 3	4 53	4 42	4 29	4 13	4 6	3 57	3 48	3 38	3 25
19	5 49	5 35	5 20	5 2	4 53	4 41	4 28	4 12	4 4	3 56	3 47	3 36	3 23
20	5 49	5 35	5 20	5 2	4 52	4 41	4 27	4 11	4 3	3 55	3 45	3 34	3 21
21	5 50	5 35	5 19	5 2	4 52	4 40	4 26	4 10	4 2	3 53	3 44	3 32	3 20
22	5 50	5 35	5 19	5 2	4 51	4 39	4 26	4 9	4 1	3 52	3 42	3 31	3 18
23	5 50	5 35	5 19	5 1	4 51	4 39	4 25	4 8	4 0	3 51	3 41	3 29	3 16
24	5 50	5 35	5 19	5 1	4 50	4 38	4 24	4 7	3 59	3 50	3 39	3 28	3 14
25	5 51	5 35	5 19	5 1	4 50	4 38	4 23	4 6	3 58	3 48	3 38	3 26	3 12
26	5 51	5 36	5 19	5 1	4 50	4 37	4 23	4 5	3 57	3 47	3 37	3 25	3 11
27	5 51	5 36	5 19	5 0	4 49	4 37	4 22	4 4	3 56	3 46	3 36	3 23	3 9
28	5 52	5 36	5 19	5 0	4 49	4 37	4 22	4 4	3 55	3 45	3 34	3 22	3 8
29	5 52	5 36	5 19	5 0	4 49	4 36	4 21	4 3	3 54	3 44	3 34	3 21	3 6
30	5 52	5 36	5 19	5 0	4 49	4 36	4 21	4 2	3 53	3 44	3 32	3 20	3 5
Dec. 1	5 53	5 36	5 19	5 0	4 48	4 36	4 20	4 2	3 53	3 43	3 32	3 18	3 3
2	5 53	5 37	5 20	5 0	4 48	4 35	4 20	4 1	3 52	3 42	3 31	3 18	3 2
3	5 53	5 37	5 20	5 0	4 48	4 35	4 20	4 0	3 51	3 41	3 30	3 16	3 1
4	5 54	5 37	5 20	5 0	4 48	4 35	4 19	4 0	3 51	3 41	3 29	3 16	3 0
5	5 54	5 38	5 20	5 0	4 48	4 35	4 19	4 0	3 51	3 40	3 28	3 15	2 59
6	5 55	5 38	5 20	5 0	4 48	4 35	4 19	3 59	3 50	3 40	3 28	3 14	2 58
7	5 55	5 38	5 20	5 0	4 48	4 35	4 19	3 59	3 50	3 39	3 27	3 13	2 57
8	5 56	5 39	5 21	5 0	4 48	4 35	4 18	3 59	3 49	3 39	3 27	3 13	2 56
9	5 56	5 39	5 21	5 0	4 48	4 35	4 18	3 58	3 49	3 38	3 26	3 12	2 56
10	5 56	5 39	5 21	5 1	4 49	4 35	4 18	3 58	3 49	3 38	3 26	3 12	2 55
11	5 57	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 48	3 38	3 26	3 11	2 54
12	5 57	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 48	3 38	3 25	3 11	2 54
13	5 58	5 41	5 22	5 1	4 49	4 35	4 19	3 58	3 48	3 38	3 25	3 11	2 54
14	5 58	5 41	5 23	5 2	4 50	4 35	4 19	3 58	3 48	3 38	3 25	3 10	2 53
15	5 59	5 41	5 23	5 2	4 50	4 36	4 19	3 58	3 48	3 38	3 25	3 10	2 53
16	5 59	5 42	5 23	5 2	4 50	4 36	4 19	3 58	3 49	3 38	3 25	3 10	2 53
17	6 0	5 42	5 24	5 3	4 50	4 36	4 20	3 59	3 49	3 38	3 25	3 10	2 53
18	6 0	5 43	5 24	5 3	4 51	4 37	4 20	3 59	3 49	3 38	3 25	3 11	2 53
19	6 1	5 43	5 25	5 4	4 51	4 37	4 20	3 59	3 49	3 38	3 26	3 11	2 53
20	6 1	5 44	5 25	5 4	4 52	4 37	4 20	4 0	3 50	3 38	3 26	3 11	2 54
21	6 2	5 44	5 26	5 4	4 52	4 38	4 21	4 0	3 50	3 39	3 26	3 12	2 54
22	6 2	5 45	5 26	5 5	4 53	4 38	4 22	4 1	3 51	3 40	3 27	3 12	2 54
23	6 3	5 45	5 27	5 5	4 53	4 39	4 22	4 1	3 51	3 40	3 27	3 13	2 55
24	6 3	5 46	5 27	5 6	4 54	4 40	4 23	4 2	3 52	3 41	3 28	3 13	2 56
25	6 4	5 46	5 28	5 6	4 54	4 40	4 23	4 3	3 52	3 42	3 29	3 14	2 56
26	6 4	5 47	5 28	5 7	4 55	4 41	4 24	4 3	3 53	3 42	3 30	3 15	2 57
27	6 5	5 47	5 29	5 8	4 55	4 41	4 24	4 4	3 54	3 43	3 30	3 16	2 58
28	6 5	5 48	5 30	5 8	4 56	4 42	4 25	4 5	3 55	3 44	3 31	3 17	2 59
29	6 6	5 48	5 30	5 9	4 57	4 43	4 26	4 6	3 56	3 45	3 32	3 18	3 0
30	6 6	5 49	5 31	5 10	4 57	4 43	4 27	4 6	3 57	3 46	3 33	3 19	3 2
31	6 7	5 50	5 31	5 10	4 58	4 44	4 28	4 7	3 58	3 47	3 34	3 20	3 3
32	6 7	5 50	5 32	5 11	4 59	4 45	4 28	4 8	3 59	3 48	3 36	3 21	3 4

TABLE II.

SUNRISE AND SUNSET FOR SOUTHERN LATITUDES, 1917.

In the case of a southern latitude the time of sunrise or sunset is taken from Table I, with the corresponding northern latitude, not for the given date but for a date about six months earlier or later, which is to be found in the following table. The time taken from Table I, whether of sunrise or sunset, must be corrected by the quantity given in Table II on the same line with the given date.

Example.—May 10, 1917, civil date, in latitude −38°, required the time of sunrise and sunset.

The astronomical date is May 9 for sunrise and May 10 for sunset; Table II gives November 11 and 12 as the corresponding dates, northern latitude, while the correction is +12^m in each case.

	Sunrise.				Sunset.			
	d	h	m		d	h	m	
Table I, Lat. +38°	Nov. 11	18	37		Nov. 12	4	51	
Table II	May 9	+	12		May 10	+	12	
Local astronomical mean time .	May 9	18	49		May 10	5	3	
Civil time	May 10	6	49	A.M.	May 10	5	3	P.M.

Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.
		m			m			m			m
Jan. 0	July 2	0	Feb. 5	Aug. 9	+ 9	Mar. 13	Sept. 15	+14	Apr. 18	Oct. 21	+15
1	3	0	6	10	9	14	16	15	19	22	15
2	4	0	7	11	9	15	17	15	20	23	14
3	5	0	8	12	9	16	18	15	21	24	14
4	6	+1	9	13	10	17	19	15	22	25	14
5	7	+1	10	14	+10	18	20	+15	23	26	+14
6	8	1	11	15	10	19	21	15	24	27	14
7	9	2	12	16	10	20	22	15	25	28	14
8	10	2	13	17	10	21	23	15	26	29	14
9	11	2	14	18	11	22	24	15	27	30	14
10	12	+2	15	19	+11	23	25	+15	28	31	+14
11	13	3	16	20	11	24	26	15	29	Nov. 1	14
12	14	3	17	21	11	25	27	15	30	2	14
13	15	3	18	23	12	26	28	15	May 1	3	13
14	16	3	19	24	12	27	29	15	2	4	13
15	18	+4	20	25	+12	28	Oct. 1	+15	3	5	+13
16	19	4	21	26	12	29	2	15	4	6	13
17	20	4	22	27	12	30	3	16	5	7	13
18	21	4	23	28	12	31	4	16	6	8	13
19	22	5	24	29	13	Apr. 1	5	16	7	9	13
20	23	+5	25	30	+13	2	6	+16	8	10	+12
21	24	5	26	31	13	3	7	15	9	11	12
22	25	5	27	Sept. 1	13	4	8	15	10	12	12
23	26	6	28	2	13	5	9	15	11	13	12
24	27	6	Mar. 1	3	13	6	10	15	12	14	12
25	28	+6	2	4	+13	7	10	+15	13	15	+11
26	29	6	3	5	13	8	11	15	14	16	11
27	30	7	4	6	14	9	12	15	15	16	11
28	31	7	5	7	14	10	13	15	16	17	11
29	Aug. 1	7	6	8	14	11	14	15	17	18	11
30	3	+7	7	9	+14	12	15	+15	18	19	+11
31	4	8	8	10	14	13	16	15	19	20	11
Feb. 1	5	8	9	11	14	14	17	15	20	21	10
2	6	8	10	12	14	15	18	15	21	22	10
3	7	8	11	13	14	16	19	15	22	23	10
4	8	+9	12	14	+14	17	20	+15	23	24	+10

SUNRISE AND SUNSET FOR SOUTHERN LATITUDES, 1917.

Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.
		m			m			m			m
May 24	Nov. 25	+10	July 19	Jan. 16	− 4	Sept. 13	Mar. 11	−14	Nov. 8	May 6	−13
25	26	9	20	17	4	14	12	14	9	7	13
26	27	9	21	18	4	15	13	14	10	8	12
27	28	9	22	19	5	16	14	15	11	9	12
28	29	9	23	20	5	17	15	15	12	10	12
29	30	+ 8	24	21	− 5	18	16	−15	13	11	−12
30	Dec. 1	8	25	22	5	19	17	15	14	12	12
31	2	8	26	23	6	20	18	15	15	13	11
June 1	3	8	27	24	6	21	19	15	16	15	11
2	4	7	28	25	6	22	20	15	17	16	11
3	4	+ 7	29	26	− 6	23	21	−15	18	17	−11
4	5	7	30	27	7	24	22	15	19	18	11
5	6	7	31	28	7	25	23	15	20	19	11
6	7	7	Aug. 1	29	7	26	24	15	21	20	10
7	8	7	2	30	7	27	25	15	22	21	10
8	9	+ 6	3	30	− 7	28	26	−15	23	22	−10
9	10	6	4	31	8	29	27	15	24	23	10
10	11	6	5	Feb. 1	8	30	28	15	25	24	10
11	12	6	6	2	8	Oct. 1	28	15	26	25	9
12	13	5	7	3	8	2	29	15	27	26	9
13	14	+ 5	8	4	− 9	3	30	−16	28	27	− 9
14	15	5	9	5	9	4	31	16	29	28	9
15	16	4	10	6	9	5	Apr. 1	16	30	29	8
16	17	4	11	7	9	6	2	16	Dec. 1	30	8
17	18	4	12	8	9	7	3	15	2	31	8
18	19	+ 4	13	9	−10	8	4	−15	3	June 1	− 8
19	20	4	14	10	10	9	5	15	4	2	7
20	20	4	15	11	10	10	7	15	5	4	7
21	21	3	16	12	10	11	8	15	6	5	7
22	22	3	17	13	10	12	9	15	7	6	7
23	23	+ 3	18	14	−11	13	10	−15	8	7	− 7
24	24	2	19	15	11	14	11	15	9	8	6
25	25	2	20	16	11	15	12	15	10	9	6
26	26	2	21	17	11	16	13	15	11	10	6
27	27	2	22	18	11	17	14	15	12	11	6
28	28	+ 1	23	18	−12	18	15	−15	13	12	− 5
29	29	1	24	19	12	19	16	15	14	13	5
30	30	1	25	20	12	20	17	15	15	14	5
July 1	Dec. 31	+ 1	26	21	12	21	18	15	16	15	4
2	Jan. 0	0	27	22	12	22	19	15	17	16	4
3	1	0	28	23	−12	23	20	−14	18	17	− 4
4	2	0	29	24	13	24	21	14	19	18	4
5	3	0	30	25	13	25	22	14	20	19	4
6	4	− 1	31	26	13	26	23	14	21	21	3
7	5	1	Sept. 1	27	13	27	24	14	22	22	3
8	6	− 1	2	28	−13	28	25	−14	23	23	− 3
9	7	2	3	Mar. 1	13	29	26	14	24	24	2
10	8	2	4	2	13	30	27	14	25	25	2
11	9	2	5	3	13	31	28	14	26	26	2
12	10	2	6	4	14	Nov. 1	29	14	27	27	2
13	11	− 3	7	5	−14	2	30	−14	28	28	− 1
14	12	3	8	6	14	3	May 1	13	29	29	1
15	13	3	9	7	14	4	2	13	30	30	1
16	14	3	10	8	14	5	3	13	31	July 1	− 1
17	14	3	11	9	14	6	4	13	32	2	0
18	15	− 4	12	10	−14	7	5	−13			

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 0	....	....	....	....	23 55	23 47	23 38	23 26	23 21	23 15	23 9	23 2	22 54
1	0 36	0 26	0 15	0 2	....	....	....	23 48	23 41	23 33	23 24	23 14	23 2
2	1 24	1 10	0 56	0 39	0 29	0 18	0 4	....	....	23 56	23 44	23 30	23 14
3	2 14	1 57	1 39	1 18	1 6	0 52	0 36	0 16	0 6	....	....	23 54	23 34
4	3 6	2 47	2 26	2 3	1 49	1 33	1 14	0 50	0 39	0 26	0 12	....	....
5	3 57	3 37	3 16	2 51	2 36	2 19	1 59	1 34	1 21	1 7	0 50	0 31	0 7
6	4 49	4 29	4 8	3 43	3 29	3 12	2 52	2 26	2 14	2 0	1 44	1 24	1 0
7	5 39	5 21	5 1	4 38	4 24	4 9	3 50	3 27	3 16	3 3	2 48	2 31	2 10
8	6 28	6 11	5 54	5 34	5 22	5 8	4 52	4 33	4 23	4 12	4 0	3 47	3 30
9	7 13	7 0	6 46	6 29	6 20	6 9	5 56	5 40	5 33	5 25	5 15	5 5	4 52
10	7 56	7 46	7 36	7 24	7 17	7 9	6 59	6 48	6 42	6 37	6 30	6 23	6 15
11	8 38	8 32	8 25	8 17	8 13	8 8	8 2	7 55	7 52	7 48	7 44	7 40	7 35
12	9 18	9 16	9 14	9 10	9 9	9 7	9 5	9 2	9 1	8 59	8 58	8 56	8 54
13	9 59	10 1	10 2	10 4	10 5	10 6	10 7	10 9	10 10	10 10	10 11	10 12	10 14
14	10 40	10 46	10 52	10 58	11 2	11 6	11 12	11 18	11 20	11 24	11 27	11 31	11 35
15	11 24	11 33	11 43	11 55	12 1	12 9	12 18	12 28	12 33	12 39	12 45	12 52	13 0
16	12 11	12 24	12 38	12 54	13 3	13 14	13 27	13 42	13 50	13 58	14 7	14 17	14 29
17	13 2	13 19	13 36	13 57	14 8	14 22	14 39	14 59	15 8	15 19	15 32	15 46	16 3
18	13 58	14 17	14 38	15 2	15 15	15 31	15 51	16 15	16 27	16 40	16 56	17 14	17 36
19	14 59	15 19	15 41	16 6	16 21	16 38	16 59	17 26	17 38	17 53	18 10	18 30	18 56
20	16 2	16 22	16 43	17 8	17 23	17 40	18 0	18 25	18 37	18 51	19 7	19 26	19 50
21	17 6	17 24	17 43	18 5	18 18	18 32	18 50	19 11	19 21	19 33	19 46	20 0	20 18
22	18 8	18 22	18 37	18 54	19 4	19 16	19 30	19 46	19 53	20 2	20 11	20 22	20 34
23	19 6	19 16	19 26	19 38	19 45	19 53	20 2	20 12	20 18	20 23	20 29	20 36	20 44
24	20 0	20 5	20 10	20 17	20 20	20 24	20 29	20 34	20 37	20 39	20 42	20 46	20 50
25	20 52	20 52	20 52	20 52	20 53	20 53	20 53	20 54	20 54	20 54	20 54	20 54	20 54
26	21 42	21 37	21 32	21 27	21 24	21 21	21 17	21 12	21 10	21 8	21 5	21 2	20 59
27	22 31	22 22	22 12	22 2	21 56	21 49	21 41	21 32	21 27	21 22	21 17	21 11	21 4
28	23 20	23 7	22 54	22 38	22 30	22 19	22 8	21 53	21 47	21 40	21 31	21 22	21 12
29	....	23 54	23 38	23 18	23 6	22 54	22 38	22 19	22 11	22 1	21 50	21 37	21 22
30	0 11	....	....	....	23 48	23 32	23 14	22 51	22 41	22 29	22 15	21 58	21 39
31	1 2	0 44	0 24	0 1	....	....	23 57	23 32	23 20	23 6	22 50	22 31	22 8
Feb. 1	1 54	1 34	1 12	0 48	0 34	0 17	....	....	....	23 55	23 38	23 18	22 54
2	2 45	2 25	2 4	1 39	1 24	1 7	0 47	0 21	0 9	....	....	....	23 58
3	3 36	3 17	2 56	2 32	2 19	2 3	1 43	1 19	1 8	0 54	0 39	0 21	....
4	4 24	4 7	3 49	3 28	3 15	3 1	2 44	2 23	2 13	2 2	1 49	1 34	1 16
5	5 11	4 56	4 41	4 23	4 13	4 1	3 47	3 30	3 22	3 13	3 3	2 51	2 37
6	5 55	5 44	5 32	5 18	5 10	5 1	4 51	4 38	4 32	4 25	4 18	4 9	4 0
7	6 37	6 30	6 21	6 12	6 7	6 1	5 54	5 46	5 42	5 37	5 32	5 27	5 21
8	7 18	7 14	7 10	7 6	7 3	7 0	6 57	6 53	6 51	6 48	6 46	6 44	6 41
9	7 58	7 59	7 59	7 59	7 59	7 59	7 59	7 59	8 0	8 0	8 0	8 0	8 0
10	8 39	8 44	8 48	8 53	8 56	8 59	9 3	9 7	9 10	9 12	9 14	9 17	9 21
11	9 22	9 30	9 38	9 48	9 54	10 0	10 8	10 17	10 21	10 26	10 31	10 37	10 43
12	10 7	10 19	10 31	10 45	10 54	11 3	11 15	11 28	11 35	11 42	11 50	11 59	12 9
13	10 55	11 10	11 27	11 45	11 56	12 9	12 24	12 42	12 51	13 1	13 12	13 24	13 40
14	11 48	12 6	12 25	12 47	13 0	13 15	13 34	13 56	14 7	14 19	14 34	14 50	15 10
15	12 44	13 4	13 26	13 50	14 4	14 21	14 42	15 7	15 20	15 34	15 50	16 10	16 35
16	13 44	14 4	14 26	14 51	15 6	15 23	15 44	16 9	16 22	16 36	16 53	17 13	17 38
17	14 46	15 5	15 25	15 48	16 2	16 18	16 37	17 0	17 12	17 24	17 39	17 56	18 17

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	12 11	12 19	12 28	12 39	12 44	12 51	12 59	13 8	13 13	13 18	13 23	13 29	13 36
	1	12 59	13 11	13 25	13 40	13 48	13 58	14 10	14 24	14 31	14 39	14 47	14 57	15 8
	2	13 48	14 4	14 21	14 40	14 51	15 4	15 20	15 39	15 48	15 58	16 9	16 22	16 38
	3	14 39	14 57	15 17	15 39	15 53	16 8	16 26	16 49	17 0	17 12	17 27	17 44	18 4
	4	15 31	15 51	16 12	16 36	16 51	17 7	17 28	17 53	18 5	18 19	18 35	18 55	19 20
	5	16 23	16 43	17 4	17 29	17 44	18 1	18 22	18 47	19 0	19 14	19 30	19 50	20 15
	6	17 14	17 33	17 54	18 18	18 32	18 48	19 7	19 31	19 42	19 56	20 11	20 28	20 50
	7	18 3	18 21	18 39	19 0	19 13	19 27	19 44	20 5	20 15	20 26	20 39	20 53	21 10
	8	18 50	19 5	19 21	19 38	19 49	20 1	20 15	20 32	20 40	20 49	20 59	21 10	21 23
	9	19 35	19 46	19 58	20 12	20 21	20 30	20 40	20 53	20 59	21 6	21 13	21 21	21 30
	10	20 17	20 25	20 34	20 43	20 49	20 55	21 2	21 11	21 15	21 20	21 24	21 30	21 36
	11	20 58	21 2	21 7	21 12	21 15	21 18	21 22	21 27	21 29	21 31	21 34	21 36	21 40
	12	21 38	21 39	21 39	21 40	21 40	21 40	21 41	21 41	21 42	21 42	21 42	21 42	21 43
	13	22 19	22 16	22 12	22 8	22 6	22 3	22 0	21 56	21 55	21 53	21 51	21 49	21 46
	14	23 1	22 54	22 46	22 38	22 32	22 27	22 20	22 12	22 9	22 5	22 0	21 56	21 50
	15	23 46	23 35	23 23	23 10	23 2	22 53	22 43	22 31	22 25	22 19	22 12	22 4	21 55
	16	....	....	....	23 47	23 36	23 24	23 10	22 54	22 46	22 37	22 27	22 16	22 3
	17	0 35	0 20	0 5	....	....	....	23 45	23 24	23 14	23 2	22 50	22 34	22 17
	18	1 28	1 11	0 52	0 30	0 17	0 3	....	....	23 53	23 40	23 24	23 5	22 42
	19	2 27	2 7	1 46	1 22	1 7	0 50	0 30	0 6	....	....	....	23 57	23 31
	20	3 29	3 9	2 47	2 22	2 6	1 49	1 28	1 2	0 49	0 35	0 18	....	....
	21	4 33	4 14	3 53	3 29	3 15	2 59	2 40	2 15	2 4	1 50	1 34	1 16	0 53
	22	5 36	5 19	5 2	4 42	4 30	4 16	4 0	3 40	3 30	3 20	3 7	2 53	2 36
	23	6 36	6 23	6 10	5 55	5 46	5 36	5 24	5 10	5 3	4 55	4 47	4 37	4 26
	24	7 32	7 24	7 16	7 7	7 2	6 55	6 48	6 40	6 35	6 31	6 26	6 21	6 14
	25	8 25	8 22	8 19	8 16	8 14	8 12	8 9	8 6	8 5	8 3	8 2	8 0	7 58
	26	9 15	9 18	9 20	9 22	9 24	9 26	9 28	9 30	9 31	9 32	9 34	9 35	9 36
	27	10 5	10 12	10 19	10 27	10 32	10 37	10 44	10 51	10 54	10 58	11 3	11 8	11 13
	28	10 54	11 5	11 17	11 30	11 38	11 47	11 57	12 10	12 16	12 23	12 30	12 38	12 48
	29	11 44	11 59	12 15	12 33	12 43	12 55	13 9	13 27	13 35	13 44	13 55	14 7	14 21
	30	12 35	12 53	13 12	13 33	13 46	14 0	14 18	14 40	14 50	15 2	15 15	15 31	15 50
	31	13 27	13 46	14 7	14 31	14 46	15 2	15 22	15 46	15 58	16 12	16 28	16 46	17 10
Feb.	1	14 19	14 39	15 0	15 26	15 40	15 57	16 18	16 44	16 56	17 10	17 27	17 47	18 12
	2	15 10	15 30	15 51	16 15	16 30	16 46	17 6	17 30	17 42	17 56	18 12	18 30	18 53
	3	16 0	16 18	16 39	17 0	17 13	17 28	17 45	18 7	18 18	18 30	18 43	18 59	19 17
	4	16 47	17 3	17 20	17 39	17 50	18 3	18 18	18 36	18 45	18 54	19 5	19 18	19 32
	5	17 32	17 45	17 59	18 14	18 23	18 33	18 45	18 59	19 6	19 13	19 21	19 31	19 41
	6	18 16	18 25	18 35	18 46	18 52	19 0	19 8	19 18	19 23	19 28	19 33	19 40	19 47
	7	18 57	19 3	19 9	19 16	19 19	19 24	19 29	19 35	19 37	19 40	19 44	19 47	19 51
	8	19 38	19 40	19 42	19 44	19 45	19 46	19 48	19 50	19 51	19 52	19 52	19 54	19 55
	9	20 18	20 16	20 14	20 12	20 10	20 9	20 7	20 5	20 4	20 2	20 1	20 0	19 58
	10	21 0	20 54	20 48	20 40	20 36	20 32	20 26	20 20	20 17	20 14	20 10	20 6	20 2
	11	21 43	21 34	21 23	21 12	21 5	20 57	20 48	20 38	20 32	20 27	20 21	20 14	20 7
	12	22 30	22 17	22 2	21 46	21 37	21 26	21 13	20 58	20 51	20 43	20 34	20 25	20 14
	13	23 20	23 4	22 46	22 26	22 14	22 0	21 44	21 25	21 15	21 5	20 53	20 40	20 24
	14	....	23 56	23 35	23 12	22 58	22 42	22 23	22 0	21 49	21 36	21 21	21 4	20 43
	15	0 14	....	....	....	23 51	23 34	23 14	22 48	22 35	22 21	22 4	21 44	21 19
	16	1 13	0 52	0 31	0 6	....	....	....	23 50	23 38	23 24	23 7	22 47	22 23
	17	2 14	1 54	1 32	1 8	0 53	0 36	0 16	....	....	....	....	....	23 54

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 0	....	....	....	....	23 55	23 47	23 38	23 26	23 21	23 15	23 9	23 2	22 54
1	0 36	0 26	0 15	0 2	....	....	....	23 48	23 41	23 33	23 24	23 14	23 2
2	1 24	1 10	0 56	0 39	0 29	0 18	0 4	....	....	23 56	23 44	23 30	23 14
3	2 14	1 57	1 39	1 18	1 6	0 52	0 36	0 16	0 6	....	....	23 54	23 34
4	3 6	2 47	2 26	2 3	1 49	1 33	1 14	0 50	0 39	0 26	0 12	....	....
5	3 57	3 37	3 16	2 51	2 36	2 19	1 59	1 34	1 21	1 7	0 50	0 31	0 7
6	4 49	4 29	4 8	3 43	3 29	3 12	2 52	2 26	2 14	2 0	1 44	1 24	1 0
7	5 39	5 21	5 1	4 38	4 24	4 9	3 50	3 27	3 16	3 3	2 48	2 31	2 10
8	6 28	6 11	5 54	5 34	5 22	5 8	4 52	4 33	4 23	4 12	4 0	3 47	3 30
9	7 13	7 0	6 46	6 29	6 20	6 9	5 56	5 40	5 33	5 25	5 15	5 5	4 52
10	7 56	7 46	7 36	7 24	7 17	7 9	6 59	6 48	6 42	6 37	6 30	6 23	6 15
11	8 38	8 32	8 25	8 17	8 13	8 8	8 2	7 55	7 52	7 48	7 44	7 40	7 35
12	9 18	9 16	9 14	9 10	9 9	9 7	9 5	9 2	9 1	8 59	8 58	8 56	8 54
13	9 59	10 1	10 2	10 4	10 5	10 6	10 7	10 9	10 10	10 10	10 11	10 12	10 14
14	10 40	10 46	10 52	10 58	11 2	11 6	11 12	11 18	11 20	11 24	11 27	11 31	11 35
15	11 24	11 33	11 43	11 55	12 1	12 9	12 18	12 28	12 33	12 39	12 45	12 52	13 0
16	12 11	12 24	12 38	12 54	13 3	13 14	13 27	13 42	13 50	13 58	14 7	14 17	14 29
17	13 2	13 19	13 36	13 57	14 8	14 22	14 39	14 59	15 8	15 19	15 32	15 46	16 3
18	13 58	14 17	14 38	15 2	15 15	15 31	15 51	16 15	16 27	16 40	16 56	17 14	17 36
19	14 59	15 19	15 41	16 6	16 21	16 38	16 59	17 26	17 38	17 53	18 10	18 30	18 56
20	16 2	16 22	16 43	17 8	17 23	17 40	18 0	18 25	18 37	18 51	19 7	19 26	19 50
21	17 6	17 24	17 43	18 5	18 18	18 32	18 50	19 11	19 21	19 33	19 46	20 0	20 18
22	18 8	18 22	18 37	18 54	19 4	19 16	19 30	19 46	19 53	20 2	20 11	20 22	20 34
23	19 6	19 16	19 26	19 38	19 45	19 53	20 2	20 12	20 18	20 23	20 29	20 36	20 44
24	20 0	20 5	20 10	20 17	20 20	20 24	20 29	20 34	20 37	20 39	20 42	20 46	20 50
25	20 52	20 52	20 52	20 52	20 53	20 53	20 53	20 54	20 54	20 54	20 54	20 54	20 54
26	21 42	21 37	21 32	21 27	21 24	21 21	21 17	21 12	21 10	21 8	21 5	21 2	20 59
27	22 31	22 22	22 12	22 2	21 56	21 49	21 41	21 32	21 27	21 22	21 17	21 11	21 4
28	23 20	23 7	22 54	22 38	22 30	22 19	22 8	21 53	21 47	21 40	21 31	21 22	21 12
29	....	23 54	23 38	23 18	23 6	22 54	22 38	22 19	22 11	22 1	21 50	21 37	21 22
30	0 11	....	....	....	23 48	23 32	23 14	22 51	22 41	22 29	22 15	21 58	21 39
31	1 2	0 44	0 24	0 1	....	....	23 57	23 32	23 20	23 6	22 50	22 31	22 8
Feb. 1	1 54	1 34	1 12	0 48	0 34	0 17	....	....	....	23 55	23 38	23 18	22 54
2	2 45	2 25	2 4	1 39	1 24	1 7	0 47	0 21	0 9	....	....	....	23 58
3	3 36	3 17	2 56	2 32	2 19	2 3	1 43	1 19	1 8	0 54	0 39	0 21	....
4	4 24	4 7	3 49	3 28	3 15	3 1	2 44	2 23	2 13	2 2	1 49	1 34	1 16
5	5 11	4 56	4 41	4 23	4 13	4 1	3 47	3 30	3 22	3 13	3 3	2 51	2 37
6	5 55	5 44	5 32	5 18	5 10	5 1	4 51	4 38	4 32	4 25	4 18	4 9	4 0
7	6 37	6 30	6 21	6 12	6 7	6 1	5 54	5 46	5 42	5 37	5 32	5 27	5 21
8	7 18	7 14	7 10	7 6	7 3	7 0	6 57	6 53	6 51	6 48	6 46	6 44	6 41
9	7 58	7 59	7 59	7 59	7 59	7 59	7 59	7 59	8 0	8 0	8 0	8 0	8 0
10	8 39	8 44	8 48	8 53	8 56	8 59	9 3	9 7	9 10	9 12	9 14	9 17	9 21
11	9 22	9 30	9 38	9 48	9 54	10 0	10 8	10 17	10 21	10 26	10 31	10 37	10 43
12	10 7	10 19	10 31	10 45	10 54	11 3	11 15	11 28	11 35	11 42	11 50	11 59	12 9
13	10 55	11 10	11 27	11 45	11 56	12 9	12 24	12 42	12 51	13 1	13 12	13 24	13 40
14	11 48	12 6	12 25	12 47	13 0	13 15	13 34	13 56	14 7	14 19	14 34	14 50	15 10
15	12 44	13 4	13 26	13 50	14 4	14 21	14 42	15 7	15 20	15 34	15 50	16 10	16 35
16	13 44	14 4	14 26	14 51	15 6	15 23	15 44	16 9	16 22	16 36	16 53	17 13	17 38
17	14 46	15 5	15 25	15 48	16 2	16 18	16 37	17 0	17 12	17 24	17 39	17 56	18 17

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 0	12 11	12 19	12 28	12 39	12 44	12 51	12 59	13 8	13 13	13 18	13 23	13 29	13 36
1	12 59	13 11	13 25	13 40	13 48	13 58	14 10	14 24	14 31	14 39	14 47	14 57	15 8
2	13 48	14 4	14 21	14 40	14 51	15 4	15 20	15 39	15 48	15 58	16 9	16 22	16 38
3	14 39	14 57	15 17	15 39	15 53	16 8	16 26	16 49	17 0	17 12	17 27	17 44	18 4
4	15 31	15 51	16 12	16 36	16 51	17 7	17 28	17 53	18 5	18 19	18 35	18 55	19 20
5	16 23	16 43	17 4	17 29	17 44	18 1	18 22	18 47	19 0	19 14	19 30	19 50	20 15
6	17 14	17 33	17 54	18 18	18 32	18 48	19 7	19 31	19 42	19 56	20 11	20 28	20 50
7	18 3	18 21	18 39	19 0	19 13	19 27	19 44	20 5	20 15	20 26	20 39	20 53	21 10
8	18 50	19 5	19 21	19 38	19 49	20 1	20 15	20 32	20 40	20 49	20 59	21 10	21 23
9	19 35	19 46	19 58	20 12	20 21	20 30	20 40	20 53	20 59	21 6	21 13	21 21	21 30
10	20 17	20 25	20 34	20 43	20 49	20 55	21 2	21 11	21 15	21 20	21 24	21 30	21 36
11	20 58	21 2	21 7	21 12	21 15	21 18	21 22	21 27	21 29	21 31	21 34	21 36	21 40
12	21 38	21 39	21 39	21 40	21 40	21 40	21 41	21 41	21 42	21 42	21 42	21 42	21 43
13	22 19	22 16	22 12	22 8	22 6	22 3	22 0	21 56	21 55	21 53	21 51	21 49	21 46
14	23 1	22 54	22 46	22 38	22 32	22 27	22 20	22 12	22 9	22 5	22 0	21 56	21 50
15	23 46	23 35	23 23	23 10	23 2	22 53	22 43	22 31	22 25	22 19	22 12	22 4	21 55
16	....	....	....	23 47	23 36	23 24	23 10	22 54	22 46	22 37	22 27	22 16	22 3
17	0 35	0 20	0 5	....	....	....	23 45	23 24	23 14	23 2	22 50	22 34	22 17
18	1 28	1 11	0 52	0 30	0 17	0 3	....	....	23 53	23 40	23 24	23 5	22 42
19	2 27	2 7	1 46	1 22	1 7	0 50	0 30	0 6	....	....	....	23 57	23 31
20	3 29	3 9	2 47	2 22	2 6	1 49	1 28	1 2	0 49	0 35	0 18	....	....
21	4 33	4 14	3 53	3 29	3 15	2 59	2 40	2 15	2 4	1 50	1 34	1 16	0 53
22	5 36	5 19	5 2	4 42	4 30	4 16	4 0	3 40	3 30	3 20	3 7	2 53	2 36
23	6 36	6 23	6 10	5 55	5 46	5 36	5 24	5 10	5 3	4 55	4 47	4 37	4 26
24	7 32	7 24	7 16	7 7	7 2	6 55	6 48	6 40	6 35	6 31	6 26	6 21	6 14
25	8 25	8 22	8 19	8 16	8 14	8 12	8 9	8 6	8 5	8 3	8 2	8 0	7 58
26	9 15	9 18	9 20	9 22	9 24	9 26	9 28	9 30	9 31	9 32	9 34	9 35	9 36
27	10 5	10 12	10 19	10 27	10 32	10 37	10 44	10 51	10 54	10 58	11 3	11 8	11 13
28	10 54	11 5	11 17	11 30	11 38	11 47	11 57	12 10	12 16	12 23	12 30	12 38	12 48
29	11 44	11 59	12 15	12 33	12 43	12 55	13 9	13 27	13 35	13 44	13 55	14 7	14 21
30	12 35	12 53	13 12	13 33	13 46	14 0	14 18	14 40	14 50	15 2	15 15	15 31	15 50
31	13 27	13 46	14 7	14 31	14 46	15 2	15 22	15 46	15 58	16 12	16 28	16 46	17 10
Feb. 1	14 19	14 39	15 0	15 26	15 40	15 57	16 18	16 44	16 56	17 10	17 27	17 47	18 12
2	15 10	15 30	15 51	16 15	16 30	16 46	17 6	17 30	17 42	17 56	18 12	18 30	18 53
3	16 0	16 18	16 39	17 0	17 13	17 28	17 45	18 7	18 18	18 30	18 43	18 59	19 17
4	16 47	17 3	17 20	17 39	17 50	18 3	18 18	18 36	18 45	18 54	19 5	19 18	19 32
5	17 32	17 45	17 59	18 14	18 23	18 33	18 45	18 59	19 6	19 13	19 21	19 31	19 41
6	18 16	18 25	18 35	18 46	18 52	19 0	19 8	19 18	19 23	19 28	19 33	19 40	19 47
7	18 57	19 3	19 9	19 16	19 19	19 24	19 29	19 35	19 37	19 40	19 44	19 47	19 51
8	19 38	19 40	19 42	19 44	19 45	19 46	19 48	19 50	19 51	19 52	19 52	19 54	19 55
9	20 18	20 16	20 14	20 12	20 10	20 9	20 7	20 5	20 4	20 2	20 1	20 0	19 58
10	21 0	20 54	20 48	20 40	20 36	20 32	20 26	20 20	20 17	20 14	20 10	20 6	20 2
11	21 43	21 34	21 23	21 12	21 5	20 57	20 48	20 38	20 32	20 27	20 21	20 14	20 7
12	22 30	22 17	22 2	21 46	21 37	21 26	21 13	20 58	20 51	20 43	20 34	20 25	20 14
13	23 20	23 4	22 46	22 26	22 14	22 0	21 44	21 25	21 15	21 5	20 53	20 40	20 24
14	....	23 56	23 35	23 12	22 58	22 42	22 23	22 0	21 49	21 36	21 21	21 4	20 43
15	0 14	....	....	....	23 51	23 34	23 14	22 48	22 35	22 21	22 4	21 44	21 19
16	1 13	0 52	0 31	0 6	....	....	....	23 50	23 38	23 24	23 7	22 47	22 23
17	2 14	1 54	1 32	1 8	0 53	0 36	0 16	....	....	....	....	....	23 54

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 16	13 44	14 4	14 26	14 51	15 6	15 23	15 44	16 9	16 22	16 36	16 53	17 13	17 38
17	14 46	15 5	15 25	15 48	16 2	16 18	16 37	17 0	17 12	17 24	17 39	17 56	18 17
18	15 47	16 3	16 20	16 40	16 52	17 5	17 21	17 40	17 48	17 58	18 10	18 22	18 38
19	16 46	16 58	17 11	17 26	17 35	17 45	17 56	18 10	18 16	18 23	18 31	18 40	18 50
20	17 42	17 50	17 58	18 7	18 13	18 19	18 26	18 34	18 38	18 42	18 47	18 52	18 58
21	18 36	18 39	18 42	18 45	18 47	18 50	18 52	18 55	18 57	18 58	19 0	19 2	19 4
22	19 28	19 26	19 24	19 22	19 20	19 19	19 17	19 15	19 14	19 13	19 12	19 11	19 9
23	20 19	20 12	20 5	19 57	19 53	19 48	19 42	19 35	19 31	19 28	19 24	19 20	19 15
24	21 10	20 59	20 48	20 34	20 27	20 18	20 8	19 56	19 50	19 44	19 38	19 30	19 21
25	22 2	21 47	21 32	21 14	21 4	20 52	20 38	20 21	20 14	20 5	19 55	19 44	19 32
26	22 55	22 37	22 18	21 57	21 44	21 30	21 13	20 52	20 42	20 31	20 18	20 4	19 46
27	23 48	23 28	23 8	22 44	22 30	22 13	21 54	21 30	21 18	21 5	20 50	20 32	20 10
28	....	....	23 59	23 34	23 19	23 2	22 42	22 17	22 4	21 50	21 34	21 14	20 50
Mar. 1	0 40	0 20	....	....	....	23 57	23 37	23 12	23 0	22 47	22 31	22 12	21 49
2	1 31	1 12	0 51	0 27	0 13	....	....	....	....	23 52	23 38	23 22	23 3
3	2 21	2 3	1 44	1 22	1 9	0 54	0 36	0 14	0 4	....	....	....	....
4	3 8	2 52	2 36	2 17	2 6	1 54	1 39	1 20	1 12	1 2	0 51	0 38	0 23
5	3 52	3 40	3 27	3 12	3 4	2 54	2 42	2 28	2 21	2 14	2 5	1 56	1 45
6	4 35	4 27	4 17	4 6	4 0	3 53	3 45	3 35	3 31	3 25	3 20	3 13	3 6
7	5 17	5 12	5 6	5 0	4 57	4 53	4 48	4 42	4 40	4 37	4 34	4 30	4 26
8	5 58	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 49	5 48	5 48	5 47	5 46
9	6 39	6 42	6 45	6 48	6 50	6 52	6 54	6 58	6 59	7 0	7 2	7 4	7 7
10	7 21	7 28	7 35	7 43	7 48	7 53	7 59	8 7	8 10	8 14	8 18	8 23	8 29
11	8 6	8 16	8 27	8 40	8 48	8 56	9 6	9 18	9 24	9 30	9 37	9 45	9 54
12	8 53	9 7	9 22	9 39	9 49	10 1	10 14	10 31	10 39	10 48	10 58	11 9	11 23
13	9 44	10 1	10 19	10 40	10 52	11 7	11 24	11 45	11 55	12 6	12 19	12 34	12 52
14	10 38	10 57	11 18	11 41	11 56	12 12	12 31	12 56	13 8	13 21	13 37	13 55	14 18
15	11 36	11 56	12 17	12 42	12 56	13 13	13 34	13 59	14 12	14 26	14 43	15 2	15 27
16	12 35	12 54	13 15	13 39	13 53	14 9	14 29	14 53	15 5	15 18	15 33	15 52	16 14
17	13 34	13 51	14 9	14 31	14 43	14 58	15 14	15 35	15 45	15 56	16 9	16 23	16 40
18	14 31	14 45	15 0	15 17	15 27	15 39	15 52	16 8	16 15	16 24	16 33	16 44	16 56
19	15 27	15 37	15 47	15 59	16 6	16 14	16 23	16 34	16 39	16 45	16 51	16 58	17 5
20	16 20	16 26	16 31	16 38	16 41	16 46	16 51	16 56	16 59	17 2	17 5	17 9	17 12
21	17 12	17 13	17 14	17 14	17 15	17 15	17 16	17 16	17 17	17 17	17 18	17 18	17 18
22	18 4	18 0	17 55	17 50	17 48	17 44	17 41	17 36	17 34	17 32	17 30	17 27	17 24
23	18 56	18 47	18 38	18 27	18 21	18 14	18 6	17 57	17 53	17 48	17 43	17 37	17 31
24	19 48	19 36	19 22	19 7	18 58	18 47	18 35	18 21	18 15	18 7	17 59	17 50	17 39
25	20 42	20 26	20 9	19 49	19 38	19 24	19 9	18 50	18 41	18 32	18 20	18 8	17 53
26	21 36	21 18	20 58	20 35	20 22	20 7	19 49	19 26	19 15	19 3	18 49	18 33	18 14
27	22 31	22 11	21 50	21 26	21 11	20 55	20 35	20 10	19 58	19 45	19 29	19 10	18 48
28	23 24	23 4	22 43	22 19	22 5	21 48	21 28	21 4	20 52	20 38	20 22	20 4	19 40
29	....	23 56	23 37	23 14	23 1	22 45	22 27	22 4	21 53	21 41	21 26	21 9	20 49
30	0 15	....	....	....	23 58	23 45	23 29	23 9	23 0	22 49	22 38	22 24	22 8
31	1 3	0 47	0 29	0 10	....	....	....	....	....	....	23 52	23 41	23 29
Apr. 1	1 48	1 35	1 21	1 5	0 55	0 45	0 32	0 16	0 9	0 1	....	....	....
2	2 32	2 22	2 11	1 59	1 52	1 44	1 35	1 23	1 18	1 12	1 6	0 58	0 50
3	3 14	3 7	3 1	2 53	2 48	2 43	2 38	2 30	2 27	2 24	2 20	2 15	2 10

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH. 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 16	1 13	0 52	0 31	0 6	....	....	....	23 50	23 38	23 24	23 7	22 47	22 23
17	2 14	1 54	1 32	1 8	0 53	0 36	0 16	....	....	....	....	....	23 54
18	3 15	2 57	2 38	2 16	2 3	1 48	1 30	1 7	0 56	0 44	0 30	0 14	....
19	4 15	4 1	3 45	3 27	3 17	3 5	2 50	2 33	2 24	2 15	2 4	1 52	1 38
20	5 13	5 3	4 52	4 39	4 32	4 24	4 14	4 2	3 56	3 50	3 43	3 35	3 27
21	6 8	6 2	5 57	5 50	5 46	5 42	5 37	5 31	5 28	5 24	5 21	5 17	5 13
22	7 0	7 0	7 0	6 59	6 59	6 58	6 58	6 57	6 57	6 57	6 56	6 56	6 56
23	7 52	7 57	8 1	8 7	8 10	8 13	8 18	8 22	8 24	8 27	8 30	8 33	8 36
24	8 43	8 52	9 2	9 13	9 19	9 26	9 35	9 45	9 50	9 55	10 1	10 7	10 15
25	9 35	9 48	10 2	10 18	10 27	10 38	10 50	11 6	11 13	11 21	11 30	11 41	11 52
26	10 27	10 44	11 1	11 21	11 33	11 47	12 3	12 23	12 32	12 43	12 56	13 10	13 26
27	11 20	11 39	11 59	12 22	12 36	12 52	13 10	13 34	13 45	13 58	14 13	14 31	14 52
28	12 13	12 33	12 54	13 19	13 34	13 50	14 10	14 36	14 48	15 2	15 19	15 38	16 2
Mar. 1	13 5	13 25	13 46	14 11	14 25	14 42	15 2	15 27	15 39	15 53	16 9	16 28	16 51
2	13 56	14 14	14 34	14 57	15 11	15 26	15 45	16 8	16 18	16 31	16 45	17 2	17 22
3	14 44	15 1	15 18	15 38	15 50	16 4	16 20	16 39	16 48	16 58	17 10	17 23	17 39
4	15 30	15 44	15 58	16 15	16 24	16 36	16 48	17 4	17 11	17 19	17 28	17 38	17 50
5	16 14	16 24	16 35	16 48	16 55	17 3	17 13	17 24	17 30	17 35	17 42	17 49	17 57
6	16 56	17 2	17 10	17 18	17 23	17 28	17 34	17 42	17 45	17 49	17 53	17 58	18 3
7	17 37	17 40	17 43	17 47	17 49	17 52	17 54	17 58	17 59	18 0	18 2	18 4	18 7
8	18 18	18 17	18 16	18 15	18 15	18 14	18 13	18 12	18 12	18 12	18 11	18 11	18 10
9	18 59	18 55	18 50	18 44	18 41	18 37	18 33	18 28	18 26	18 23	18 20	18 18	18 14
10	19 42	19 34	19 25	19 15	19 9	19 2	18 54	18 45	18 41	18 36	18 31	18 25	18 19
11	20 28	20 16	20 3	19 48	19 40	19 30	19 19	19 5	18 59	18 52	18 44	18 35	18 25
12	21 17	21 1	20 45	20 26	20 15	20 2	19 47	19 30	19 21	19 12	19 1	18 49	18 35
13	22 9	21 51	21 32	21 10	20 57	20 42	20 24	20 2	19 51	19 39	19 26	19 10	18 52
14	23 5	22 46	22 24	22 0	21 46	21 29	21 10	20 45	20 32	20 19	20 3	19 44	19 21
15	....	23 44	23 22	22 58	22 43	22 26	22 6	21 40	21 28	21 14	20 57	20 37	20 12
16	0 4	....	....	....	23 47	23 32	23 13	22 49	22 38	22 25	22 10	21 52	21 30
17	1 3	0 44	0 24	0 1	....	....	....	....	23 59	23 48	23 36	23 23	23 6
18	2 1	1 45	1 28	1 8	0 57	0 44	0 28	0 8	....	....	....	....	....
19	2 58	2 46	2 33	2 18	2 9	1 59	1 47	1 32	1 26	1 18	1 10	1 0	0 49
20	3 52	3 45	3 36	3 27	3 21	3 15	3 8	2 58	2 54	2 50	2 44	2 39	2 32
21	4 45	4 42	4 39	4 35	4 33	4 30	4 28	4 24	4 23	4 21	4 19	4 17	4 14
22	5 37	5 39	5 41	5 43	5 44	5 45	5 47	5 49	5 50	5 51	5 52	5 53	*5 55
23	6 28	6 35	6 42	6 50	6 54	7 0	7 6	7 13	7 16	7 20	7 25	7 29	7 34
24	7 20	7 32	7 43	7 57	8 4	8 13	8 24	8 36	8 42	8 49	8 56	9 4	9 14
25	8 14	8 29	8 44	9 2	9 13	9 25	9 40	9 57	10 5	10 15	10 25	10 37	10 51
26	9 8	9 26	9 45	10 6	10 19	10 34	10 51	11 13	11 24	11 36	11 49	12 5	12 24
27	10 3	10 22	10 43	11 7	11 21	11 37	11 57	12 21	12 33	12 46	13 2	13 20	13 43
28	10 56	11 16	11 38	12 2	12 16	12 33	12 53	13 18	13 30	13 44	14 0	14 19	14 42
29	11 49	12 8	12 28	12 52	13 5	13 21	13 40	14 4	14 15	14 28	14 42	15 0	15 21
30	12 38	12 55	13 14	13 35	13 48	14 2	14 18	14 39	14 49	15 0	15 12	15 26	15 43
31	13 25	13 40	13 56	14 13	14 24	14 36	14 50	15 6	15 14	15 23	15 33	15 44	15 57
Apr. 1	14 10	14 22	14 34	14 48	14 56	15 5	15 16	15 29	15 34	15 41	15 48	15 56	16 6
2	14 53	15 1	15 9	15 19	15 25	15 31	15 38	15 47	15 51	15 55	16 0	16 6	16 12
3	15 34	15 38	15 43	15 48	15 51	15 55	15 59	16 4	16 6	16 8	16 10	16 13	16 16

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.		0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	1	1 48	1 35	1 21	1 5	0 55	0 45	0 32	0 16	0 9	0 1	....	....	....
	2	2 32	2 22	2 11	1 59	1 52	1 44	1 35	1 23	1 18	1 12	1 6	0 58	0 50
	3	3 14	3 7	3 1	2 53	2 48	2 43	2 38	2 30	2 27	2 24	2 20	2 15	2 10
	4	3 55	3 52	3 50	3 46	3 45	3 43	3 40	3 38	3 36	3 35	3 33	3 31	3 30
	5	4 36	4 37	4 39	4 40	4 41	4 42	4 44	4 45	4 46	4 47	4 48	4 49	4 50
	6	5 18	5 24	5 29	5 36	5 39	5 44	5 48	5 54	5 57	6 0	6 3	6 7	6 12
	7	6 3	6 12	6 22	6 33	6 39	6 46	6 55	7 6	7 10	7 16	7 22	7 29	7 36
	8	6 50	7 2	7 16	7 32	7 41	7 51	8 4	8 19	8 26	8 34	8 43	8 53	9 5
	9	7 40	7 56	8 13	8 33	8 44	8 58	9 14	9 33	9 43	9 53	10 5	10 19	10 35
	10	8 34	8 52	9 12	9 35	9 48	10 4	10 23	10 46	10 57	11 10	11 25	11 42	12 3
	11	9 31	9 50	10 12	10 36	10 50	11 7	11 27	11 52	12 4	12 18	12 34	12 54	13 18
	12	10 29	10 49	11 10	11 34	11 48	12 4	12 24	12 49	13 1	13 14	13 30	13 48	14 10
	13	11 28	11 45	12 4	12 26	12 40	12 54	13 12	13 34	13 44	13 56	14 9	14 24	14 42
	14	12 24	12 39	12 55	13 14	13 24	13 37	13 51	14 9	14 17	14 26	14 36	14 48	15 1
	15	13 19	13 30	13 42	13 56	14 4	14 13	14 24	14 36	14 42	14 48	14 56	15 4	15 12
	16	14 11	14 18	14 26	14 34	14 39	14 45	14 51	14 59	15 2	15 6	15 10	15 15	15 20
	17	15 2	15 5	15 7	15 10	15 12	15 14	15 17	15 19	15 20	15 22	15 23	15 25	15 27
	18	15 52	15 50	15 48	15 46	15 44	15 43	15 41	15 39	15 38	15 37	15 35	15 34	15 33
	19	16 43	16 36	16 29	16 21	16 17	16 12	16 6	15 59	15 55	15 52	15 48	15 44	15 39
	20	17 34	17 24	17 12	16 59	16 52	16 43	16 33	16 21	16 16	16 10	16 3	15 55	15 47
	21	18 28	18 13	17 58	17 40	17 30	17 18	17 4	16 48	16 40	16 32	16 22	16 11	15 58
	22	19 22	19 5	18 47	18 25	18 13	17 58	17 42	17 21	17 11	17 0	16 48	16 33	16 16
	23	20 18	19 59	19 38	19 15	19 1	18 45	18 26	18 2	17 51	17 38	17 23	17 6	16 45
	24	21 12	20 53	20 32	20 8	19 53	19 37	19 17	18 53	18 41	18 27	18 11	17 53	17 30
	25	22 5	21 46	21 26	21 3	20 49	20 34	20 15	19 51	19 40	19 27	19 12	18 55	18 33
	26	22 55	22 38	22 20	21 59	21 47	21 33	21 16	20 56	20 46	20 35	20 22	20 8	19 50
	27	23 42	23 28	23 13	22 55	22 45	22 34	22 20	22 3	21 55	21 46	21 36	21 24	21 11
	28	....	....	....	23 50	23 42	23 33	23 23	23 10	23 4	22 57	22 50	22 42	22 32
	29	0 27	0 16	0 4	....	....	....	....	....	....	....	....	23 58	23 52
	30	1 9	1 2	0 53	0 44	0 39	0 33	0 25	0 17	0 13	0 8	0 4	....	...
May	1	1 50	1 46	1 42	1 37	1 34	1 32	1 28	1 24	1 22	1 19	1 17	1 14	1 11
	2	2 31	2 31	2 31	2 31	2 31	2 31	2 30	2 30	2 30	2 30	2 30	2 30	2 30
	3	3 13	3 17	3 21	3 25	3 28	3 31	3 34	3 38	3 41	3 43	3 45	3 48	3 51
	4	3 56	4 4	4 12	4 22	4 27	4 33	4 40	4 49	4 53	4 57	5 2	5 8	5 14
	5	4 43	4 54	5 6	5 20	5 28	5 37	5 49	6 2	6 8	6 15	6 23	6 32	6 41
	6	5 32	5 47	6 3	6 21	6 32	6 44	6 59	7 17	7 25	7 35	7 46	7 58	8 12
	7	6 26	6 44	7 3	7 24	7 37	7 52	8 10	8 32	8 42	8 54	9 8	9 24	9 43
	8	7 23	7 43	8 3	8 27	8 41	8 58	9 17	9 42	9 54	10 7	10 23	10 42	11 4
	9	8 23	8 42	9 3	9 28	9 42	9 58	10 18	10 43	10 55	11 9	11 24	11 43	12 6
	10	9 22	9 40	10 0	10 23	10 36	10 52	11 10	11 32	11 43	11 55	12 9	12 25	12 44
	11	10 20	10 36	10 52	11 12	11 23	11 36	11 52	12 10	12 19	12 28	12 39	12 52	13 6
	12	11 15	11 28	11 41	11 56	12 4	12 14	12 26	12 39	12 46	12 53	13 1	13 10	13 20
	13	12 8	12 16	12 25	12 35	12 40	12 47	12 55	13 4	13 8	13 12	13 17	13 23	13 29
	14	12 58	13 2	13 6	13 11	13 13	13 16	13 20	13 24	13 26	13 28	13 30	13 33	13 36
	15	13 47	13 46	13 46	13 45	13 45	13 44	13 44	13 43	13 43	13 43	13 42	13 42	13 42
	16	14 36	14 31	14 26	14 20	14 16	14 12	14 8	14 2	14 0	13 58	13 54	13 51	13 48
	17	15 26	15 17	15 7	14 56	14 49	14 42	14 34	14 24	14 19	14 14	14 9	14 2	13 55

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr. 1	14 10	14 22	14 34	14 48	14 56	15 5	15 16	15 29	15 34	15 41	15 48	15 56	16 6
2	14 53	15 1	15 9	15 19	15 25	15 31	15 38	15 47	15 51	15 55	16 0	16 6	16 12
3	15 34	15 38	15 43	15 48	15 51	15 55	15 59	16 4	16 6	16 8	16 10	16 13	16 16
4	16 15	16 16	16 16	16 17	16 17	16 18	16 18	16 19	16 19	16 20	16 20	16 20	16 21
5	16 56	16 53	16 50	16 46	16 44	16 41	16 38	16 35	16 33	16 32	16 29	16 27	16 25
6	17 40	17 32	17 25	17 16	17 11	17 6	16 59	16 52	16 48	16 44	16 40	16 35	16 30
7	18 25	18 14	18 3	17 49	17 42	17 33	17 23	17 11	17 6	16 59	16 52	16 45	16 36
8	19 13	18 59	18 44	18 26	18 16	18 5	17 51	17 35	17 27	17 18	17 9	16 58	16 46
9	20 6	19 48	19 30	19 9	18 56	18 42	18 26	18 5	17 55	17 44	17 32	17 17	17 0
10	21 1	20 42	20 21	19 58	19 44	19 28	19 9	18 45	18 33	18 20	18 5	17 48	17 26
11	21 59	21 39	21 18	20 53	20 39	20 22	20 2	19 36	19 24	19 10	18 54	18 34	18 10
12	22 57	22 38	22 18	21 54	21 41	21 24	21 5	20 41	20 29	20 16	20 1	19 43	19 20
13	23 55	23 38	23 20	23 0	22 48	22 34	22 17	21 56	21 46	21 35	21 22	21 8	20 50
14	....	....	....	....	23 57	23 46	23 33	23 16	23 9	23 1	22 51	22 40	22 28
15	0 51	0 37	0 23	0 6	....	....	....	....	....	....	....	....	....
16	1 44	1 35	1 25	1 13	1 7	0 59	0 50	0 39	0 34	0 29	0 22	0 15	0 7
17	2 36	2 31	2 25	2 20	2 16	2 12	2 7	2 2	1 59	1 56	1 53	1 50	1 46
18	3 26	3 26	3 25	3 25	3 25	3 25	3 25	3 24	3 24	3 24	3 24	3 23	3 23
19	4 16	4 21	4 25	4 31	4 34	4 37	4 42	4 46	4 48	4 51	4 54	4 57	5 0
20	5 7	5 16	5 26	5 36	5 43	5 50	5 58	6 8	6 13	6 18	6 24	6 30	6 38
21	6 0	6 13	6 26	6 42	6 52	7 2	7 14	7 30	7 37	7 45	7 54	8 4	8 15
22	6 54	7 10	7 28	7 48	7 59	8 13	8 29	8 48	8 58	9 8	9 21	9 34	9 51
23	7 49	8 8	8 28	8 50	9 4	9 19	9 38	10 1	10 12	10 25	10 40	10 57	11 18
24	8 44	9 4	9 25	9 49	10 3	10 20	10 40	11 4	11 16	11 30	11 46	12 4	12 28
25	9 38	9 57	10 18	10 42	10 56	11 12	11 31	11 56	12 7	12 20	12 36	12 53	13 15
26	10 30	10 48	11 7	11 29	11 42	11 56	12 14	12 36	12 46	12 57	13 10	13 26	13 44
27	11 18	11 34	11 51	12 10	12 21	12 33	12 48	13 6	13 15	13 24	13 35	13 47	14 1
28	12 4	12 17	12 30	12 46	12 55	13 5	13 16	13 31	13 37	13 44	13 53	14 2	14 12
29	12 48	12 57	13 7	13 18	13 25	13 32	13 41	13 51	13 55	14 1	14 6	14 13	14 20
30	13 29	13 35	13 41	13 48	13 52	13 57	14 2	14 8	14 11	14 14	14 17	14 21	14 25
May 1	14 10	14 12	14 15	14 17	14 18	14 20	14 22	14 24	14 25	14 26	14 27	14 28	14 30
2	14 52	14 50	14 48	14 46	14 44	14 43	14 42	14 40	14 39	14 38	14 37	14 36	14 34
3	15 34	15 28	15 22	15 16	15 12	15 7	15 2	14 56	14 53	14 50	14 47	14 43	14 39
4	16 18	16 9	15 59	15 48	15 41	15 34	15 25	15 14	15 10	15 4	14 59	14 52	14 45
5	17 6	16 53	16 39	16 24	16 14	16 4	15 52	15 37	15 30	15 22	15 14	15 4	14 54
6	17 58	17 42	17 24	17 5	16 53	16 40	16 24	16 5	15 56	15 46	15 35	15 22	15 6
7	18 53	18 35	18 15	17 52	17 39	17 23	17 5	16 42	16 31	16 19	16 6	15 49	15 29
8	19 52	19 32	19 11	18 47	18 32	18 16	17 56	17 31	17 19	17 6	16 50	16 31	16 8
9	20 51	20 32	20 11	19 48	19 33	19 17	18 58	18 33	18 22	18 8	17 52	17 34	17 11
10	21 50	21 33	21 14	20 53	20 40	20 26	20 8	19 46	19 36	19 24	19 11	18 55	18 37
11	22 47	22 32	22 17	22 0	21 49	21 37	21 23	21 6	20 58	20 49	20 38	20 27	20 13
12	23 41	23 30	23 19	23 6	22 59	22 50	22 40	22 28	22 22	22 16	22 9	22 1	21 52
13	....	....	....	....	....	....	23 56	23 49	23 46	23 42	23 38	23 34	23 29
14	0 32	0 26	0 19	0 12	0 7	0 2	....	....	....	....	....	....	....
15	1 22	1 20	1 18	1 16	1 15	1 13	1 12	1 10	1 9	1 8	1 7	1 6	1 4
16	2 10	2 13	2 16	2 20	2 22	2 24	2 26	2 30	2 31	2 33	2 35	2 36	2 39
17	3 0	3 7	3 15	3 24	3 29	3 34	3 41	3 49	3 53	3 57	4 2	4 7	4 13

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May 17	15 26	15 17	15 7	14 56	14 49	14 42	14 34	14 24	14 19	14 14	14 9	14 2	13 55
18	16 17	16 4	15 50	15 34	15 25	15 15	15 2	14 48	14 41	14 34	14 25	14 15	14 5
19	17 11	16 54	16 37	16 17	16 6	15 52	15 37	15 18	15 9	14 59	14 48	14 35	14 20
20	18 5	17 47	17 27	17 4	16 51	16 36	16 18	15 55	15 44	15 32	15 18	15 2	14 43
21	19 0	18 41	18 20	17 56	17 42	17 26	17 6	16 42	16 30	16 17	16 2	15 44	15 21
22	19 54	19 35	19 15	18 51	18 37	18 21	18 2	17 38	17 26	17 13	16 58	16 40	16 18
23	20 46	20 28	20 10	19 48	19 35	19 20	19 3	18 41	18 30	18 19	18 5	17 49	17 30
24	21 35	21 20	21 3	20 44	20 34	20 21	20 6	19 47	19 39	19 29	19 18	19 5	18 50
25	22 21	22 8	21 55	21 40	21 32	21 22	21 10	20 55	20 49	20 41	20 33	20 23	20 13
26	23 4	22 55	22 46	22 35	22 28	22 21	22 13	22 3	21 58	21 53	21 47	21 41	21 33
27	23 46	23 40	23 34	23 28	23 24	23 20	23 15	23 9	23 6	23 3	23 0	22 56	22 52
28	....	....	....	....	....	....	....	....	....	....	....	....	....
29	0 26	0 25	0 23	0 21	0 20	0 18	0 17	0 15	0 15	0 14	0 13	0 12	0 10
30	1 7	1 9	1 12	1 14	1 16	1 18	1 20	1 22	1 23	1 24	1 26	1 27	1 29
31	1 49	1 55	2 2	2 9	2 13	2 18	2 24	2 30	2 34	2 37	2 41	2 45	2 50
June 1	2 34	2 44	2 54	3 6	3 13	3 21	3 30	3 42	3 47	3 53	3 59	4 6	4 15
2	3 22	3 35	3 50	4 6	4 16	4 26	4 40	4 55	5 3	5 11	5 21	5 31	5 44
3	4 14	4 30	4 48	5 8	5 20	5 34	5 50	6 11	6 21	6 31	6 44	6 58	7 15
4	5 10	5 29	5 49	6 12	6 26	6 42	7 1	7 24	7 36	7 49	8 4	8 22	8 43
5	6 10	6 29	6 51	7 15	7 29	7 46	8 6	8 31	8 43	8 57	9 13	9 32	9 55
6	7 11	7 30	7 50	8 14	8 28	8 44	9 3	9 26	9 37	9 50	10 5	10 22	10 43
7	8 12	8 28	8 46	9 7	9 19	9 33	9 49	10 9	10 18	10 29	10 41	10 55	11 11
8	9 9	9 23	9 37	9 54	10 3	10 14	10 27	10 42	10 49	10 57	11 6	11 16	11 27
9	10 4	10 13	10 23	10 35	10 41	10 49	10 58	11 8	11 13	11 18	11 24	11 30	11 38
10	10 55	11 0	11 6	11 12	11 16	11 20	11 25	11 30	11 32	11 35	11 38	11 42	11 46
11	11 45	11 46	11 46	11 47	11 48	11 48	11 49	11 50	11 50	11 50	11 51	11 51	11 52
12	12 34	12 30	12 26	12 21	12 19	12 16	12 13	12 8	12 7	12 5	12 3	12 0	11 58
13	13 22	13 14	13 6	12 56	12 51	12 44	12 37	12 29	12 25	12 20	12 16	12 10	12 4
14	14 12	14 1	13 48	13 33	13 25	13 16	13 4	12 51	12 45	12 38	12 31	12 22	12 13
15	15 4	14 49	14 33	14 14	14 3	13 51	13 36	13 18	13 10	13 1	12 51	12 39	12 26
16	15 57	15 40	15 21	14 59	14 46	14 31	14 14	13 52	13 42	13 31	13 18	13 3	12 45
17	16 52	16 32	16 12	15 48	15 34	15 18	14 59	14 35	14 23	14 10	13 55	13 38	13 16
18	17 46	17 26	17 6	16 42	16 28	16 11	15 52	15 27	15 15	15 2	14 46	14 28	14 5
19	18 38	18 20	18 0	17 38	17 24	17 9	16 51	16 28	16 17	16 4	15 50	15 33	15 13
20	19 28	19 12	18 54	18 34	18 23	18 9	17 53	17 33	17 24	17 13	17 1	16 47	16 31
21	20 15	20 2	19 47	19 31	19 21	19 10	18 57	18 41	18 34	18 25	18 16	18 5	17 53
22	21 0	20 49	20 38	20 26	20 18	20 10	20 1	19 49	19 43	19 37	19 31	19 23	19 14
23	21 42	21 35	21 28	21 20	21 15	21 10	21 3	20 56	20 52	20 48	20 44	20 39	20 34
24	22 22	22 19	22 16	22 12	22 10	22 8	22 5	22 2	22 0	21 58	21 56	21 54	21 52
25	23 3	23 3	23 4	23 5	23 5	23 6	23 7	23 8	23 8	23 8	23 9	23 9	23 10
26	23 44	23 48	23 53	23 58	....	....	....	....	....	....	....	....	....
27	....	....	....	....	0 1	0 5	0 9	0 14	0 16	0 19	0 22	0 25	0 29
28	0 26	0 34	0 43	0 53	0 59	1 6	1 14	1 23	1 27	1 32	1 38	1 44	1 50
29	1 12	1 23	1 36	1 50	1 59	2 9	2 20	2 34	2 41	2 48	2 56	3 5	3 16
30	2 1	2 16	2 32	2 51	3 2	3 14	3 29	3 48	3 56	4 6	4 17	4 30	4 45
July 1	2 55	3 13	3 32	3 54	4 7	4 22	4 39	5 2	5 12	5 25	5 39	5 55	6 15
2	3 53	4 12	4 33	4 57	5 11	5 28	5 47	6 12	6 24	6 38	6 54	7 12	7 36

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May 17	3 0	3 7	3 15	3 24	3 29	3 34	3 41	3 49	3 53	3 57	4 2	4 7	4 13
18	3 50	4 2	4 14	4 28	4 36	4 45	4 56	5 9	5 15	5 22	5 29	5 38	5 48
19	4 43	4 58	5 14	5 32	5 43	5 55	6 9	6 27	6 36	6 45	6 56	7 8	7 22
20	5 37	5 54	6 14	6 35	6 48	7 3	7 20	7 42	7 53	8 4	8 18	8 34	8 53
21	6 32	6 51	7 12	7 36	7 50	8 6	8 25	8 49	9 1	9 14	9 30	9 48	10 10
22	7 27	7 46	8 7	8 31	8 45	9 2	9 21	9 46	9 57	10 10	10 26	10 44	11 6
23	8 20	8 38	8 58	9 21	9 34	9 50	10 8	10 30	10 41	10 53	11 7	11 24	11 43
24	9 10	9 27	9 44	10 4	10 16	10 30	10 46	11 5	11 14	11 24	11 36	11 49	12 5
25	9 58	10 12	10 26	10 43	10 52	11 4	11 17	11 32	11 40	11 48	11 57	12 7	12 19
26	10 42	10 53	11 4	11 17	11 24	11 33	11 42	11 54	11 59	12 5	12 12	12 19	12 27
27	11 24	11 32	11 39	11 48	11 52	11 58	12 5	12 12	12 16	12 20	12 24	12 28	12 34
28	12 6	12 9	12 13	12 17	12 19	12 22	12 25	12 28	12 30	12 32	12 34	12 36	12 39
29	12 46	12 46	12 46	12 45	12 45	12 45	12 44	12 44	12 44	12 44	12 44	12 44	12 43
30	13 27	13 23	13 19	13 14	13 11	13 8	13 5	13 0	12 58	12 56	12 54	12 51	12 48
31	14 10	14 3	13 54	13 45	13 39	13 33	13 26	13 18	13 14	13 9	13 4	12 59	12 53
June 1	14 56	14 45	14 33	14 19	14 11	14 2	13 51	13 38	13 32	13 25	13 18	13 10	13 0
2	15 46	15 32	15 16	14 57	14 47	14 34	14 20	14 3	13 55	13 46	13 36	13 24	13 11
3	16 40	16 23	16 4	15 42	15 30	15 15	14 58	14 36	14 26	14 15	14 2	13 47	13 29
4	17 38	17 19	16 58	16 35	16 20	16 4	15 45	15 21	15 9	14 56	14 40	14 22	14 0
5	18 39	18 20	17 59	17 34	17 20	17 4	16 44	16 19	16 7	15 53	15 37	15 18	14 55
6	19 40	19 22	19 2	18 40	18 27	18 11	17 53	17 30	17 19	17 7	16 52	16 36	16 15
7	20 39	20 24	20 7	19 48	19 37	19 24	19 9	18 50	18 42	18 31	18 20	18 7	17 52
8	21 36	21 24	21 11	20 57	20 49	20 39	20 28	20 14	20 8	20 1	19 52	19 43	19 33
9	22 29	22 21	22 13	22 4	21 59	21 53	21 46	21 37	21 34	21 29	21 24	21 19	21 13
10	23 19	23 16	23 13	23 10	23 8	23 5	23 2	22 59	22 57	22 56	22 54	22 52	22 49
11	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
12	0 8	0 10	0 12	0 13	0 15	0 16	0 17	0 19	0 20	0 21	0 22	0 23	0 24
13	0 57	1 3	1 9	1 16	1 21	1 26	1 31	1 38	1 41	1 44	1 48	1 52	1 57
14	1 46	1 56	2 7	2 20	2 27	2 35	2 44	2 56	3 2	3 8	3 14	3 22	3 31
15	2 37	2 51	3 6	3 23	3 32	3 44	3 57	4 14	4 21	4 30	4 40	4 51	5 4
16	3 30	3 46	4 4	4 25	4 37	4 51	5 8	5 28	5 38	5 49	6 2	6 16	6 34
17	4 24	4 42	5 2	5 26	5 39	5 55	6 14	6 37	6 48	7 1	7 16	7 34	7 55
18	5 18	5 37	5 58	6 22	6 36	6 53	7 12	7 37	7 49	8 2	8 18	8 36	8 59
19	6 11	6 30	6 51	7 14	7 28	7 44	8 3	8 26	8 37	8 50	9 5	9 22	9 43
20	7 3	7 20	7 39	8 0	8 12	8 27	8 43	9 4	9 14	9 25	9 38	9 52	10 9
21	7 51	8 6	8 22	8 40	8 51	9 3	9 17	9 34	9 42	9 51	10 1	10 12	10 26
22	8 37	8 49	9 2	9 16	9 24	9 34	9 44	9 58	10 4	10 10	10 18	10 26	10 36
23	9 20	9 29	9 38	9 48	9 54	10 0	10 8	10 17	10 21	10 26	10 31	10 36	10 43
24	10 2	10 6	10 12	10 17	10 21	10 25	10 29	10 34	10 36	10 39	10 42	10 45	10 49
25	10 42	10 43	10 44	10 46	10 47	10 48	10 48	10 50	10 50	10 51	10 52	10 52	10 53
26	11 22	11 20	11 17	11 14	11 12	11 10	11 8	11 5	11 4	11 2	11 1	10 59	10 57
27	12 4	11 58	11 51	11 43	11 39	11 34	11 28	11 22	11 19	11 15	11 11	11 7	11 2
28	12 48	12 38	12 27	12 15	12 8	12 0	11 51	11 40	11 35	11 29	11 23	11 16	11 9
29	13 35	13 22	13 7	12 51	12 41	12 30	12 18	12 2	11 55	11 47	11 38	11 28	11 17
30	14 26	14 10	13 52	13 32	13 20	13 7	12 51	12 31	12 22	12 12	12 0	11 47	11 31
July 1	15 22	15 3	14 43	14 20	14 7	13 51	13 32	13 9	12 58	12 46	12 31	12 15	11 54
2	16 21	16 2	15 41	15 16	15 2	14 45	14 26	14 0	13 48	13 35	13 19	13 0	12 36

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

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Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July 1	2 55	3 13	3 32	3 54	4 7	4 22	4 39	5 2	5 12	5 25	5 39	5 55	6 15
2	3 53	4 12	4 33	4 57	5 11	5 28	5 47	6 12	6 24	6 38	6 54	7 12	7 36
3	4 54	5 13	5 34	5 58	6 12	6 29	6 48	7 13	7 25	7 39	7 54	8 13	8 35
4	5 56	6 14	6 33	6 55	7 8	7 23	7 41	8 2	8 13	8 25	8 38	8 54	9 12
5	6 56	7 11	7 27	7 46	7 56	8 9	8 23	8 41	8 48	8 58	9 8	9 19	9 33
6	7 54	8 5	8 17	8 31	8 39	8 47	8 58	9 10	9 16	9 22	9 29	9 37	9 46
7	8 48	8 55	9 2	9 11	9 15	9 21	9 27	9 34	9 38	9 41	9 46	9 50	9 55
8	9 40	9 42	9 45	9 48	9 49	9 51	9 53	9 55	9 56	9 57	9 58	10 0	10 2
9	10 30	10 28	10 26	10 23	10 21	10 19	10 17	10 15	10 14	10 12	10 11	10 10	10 8
10	11 20	11 13	11 6	10 58	10 53	10 48	10 42	10 35	10 31	10 28	10 24	10 19	10 14
11	12 10	11 59	11 48	11 35	11 27	11 18	11 8	10 57	10 51	10 45	10 38	10 31	10 22
12	13 1	12 47	12 31	12 14	12 4	11 52	11 39	11 22	11 14	11 6	10 56	10 46	10 33
13	13 53	13 36	13 18	12 57	12 45	12 31	12 14	11 51	11 44	11 33	11 21	11 7	10 50
14	14 47	14 28	14 8	13 44	13 31	13 15	12 56	12 33	12 22	12 9	11 54	11 38	11 17
15	15 40	15 20	15 0	14 36	14 22	14 5	13 46	13 21	13 9	12 56	12 41	12 22	11 59
16	16 33	16 14	15 54	15 30	15 17	15 1	14 42	14 18	14 7	13 54	13 39	13 22	13 0
17	17 23	17 6	16 48	16 27	16 14	16 0	15 43	15 22	15 12	15 1	14 48	14 33	14 15
18	18 11	17 56	17 41	17 23	17 13	17 1	16 47	16 29	16 21	16 12	16 1	15 50	15 36
19	18 56	18 45	18 32	18 18	18 10	18 1	17 50	17 37	17 30	17 24	17 16	17 7	16 57
20	19 39	19 31	19 22	19 13	19 7	19 1	18 53	18 44	18 40	18 35	18 30	18 25	18 18
21	20 20	20 16	20 11	20 6	20 3	19 59	19 55	19 50	19 48	19 46	19 43	19 40	19 36
22	21 0	21 0	20 59	20 58	20 58	20 57	20 56	20 56	20 55	20 55	20 55	20 54	20 54
23	21 41	21 44	21 47	21 51	21 53	21 55	21 58	22 2	22 3	22 5	22 7	22 9	22 12
24	22 22	22 29	22 37	22 45	22 50	22 55	23 2	23 9	23 13	23 17	23 21	23 26	23 32
25	23 5	23 16	23 27	23 40	23 47	23 55	....	....	....	....	....	....	....
26	23 52	....	....	....	....	....	0 5	0 17	0 23	0 29	0 36	0 44	0 53
27	....	0 6	0 20	0 37	0 47	0 58	1 12	1 28	1 36	1 45	1 55	2 6	2 18
28	0 42	0 59	1 17	1 37	1 49	2 3	2 20	2 40	2 50	3 1	3 14	3 28	3 46
29	1 37	1 55	2 16	2 39	2 52	3 8	3 27	3 51	4 2	4 15	4 30	4 48	5 10
30	2 35	2 55	3 16	3 40	3 54	4 11	4 31	4 56	5 8	5 22	5 38	5 57	6 20
31	3 36	3 55	4 15	4 38	4 52	5 8	5 27	5 50	6 2	6 14	6 29	6 46	7 7
Aug. 1	4 37	4 54	5 12	5 32	5 44	5 58	6 14	6 34	6 43	6 54	7 6	7 19	7 35
2	5 37	5 50	6 4	6 20	6 30	6 40	6 53	7 8	7 15	7 23	7 32	7 41	7 52
3	6 34	6 43	6 53	7 4	7 10	7 17	7 26	7 35	7 40	7 45	7 50	7 56	8 3
4	7 29	7 33	7 38	7 43	7 46	7 50	7 53	7 58	8 0	8 3	8 5	8 8	8 11
5	8 22	8 21	8 21	8 20	8 20	8 20	8 20	8 19	8 19	8 19	8 18	8 18	8 18
6	9 13	9 8	9 3	8 57	8 53	8 49	8 45	8 39	8 37	8 34	8 32	8 28	8 25
7	10 4	9 55	9 45	9 34	9 27	9 20	9 12	9 1	8 57	8 52	8 46	8 39	8 32
8	10 56	10 43	10 29	10 13	10 4	9 54	9 41	9 26	9 19	9 12	9 3	8 54	8 43
9	11 49	11 33	11 16	10 56	10 44	10 31	10 15	9 56	9 47	9 37	9 26	9 11	8 58
10	12 43	12 25	12 5	11 42	11 29	11 14	10 56	10 33	10 22	10 10	9 56	9 40	9 21
11	13 37	13 17	12 57	12 33	12 19	12 2	11 43	11 19	11 7	10 54	10 38	10 20	9 57
12	14 29	14 10	13 50	13 26	13 12	12 56	12 37	12 13	12 2	11 48	11 33	11 15	10 53
13	15 20	15 2	14 43	14 22	14 9	13 54	13 36	13 14	13 4	12 52	12 38	12 22	12 3
14	16 8	15 53	15 36	15 18	15 6	14 54	14 39	14 20	14 11	14 1	13 50	13 37	13 22
15	16 54	16 42	16 28	16 13	16 4	15 54	15 42	15 27	15 20	15 13	15 4	14 54	14 43
16	17 38	17 28	17 19	17 7	17 1	16 54	16 45	16 34	16 30	16 24	16 18	16 11	16 3

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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Date. \ Lat.		0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	1	15 22	15 3	14 43	14 20	14 7	13 51	13 32	13 9	12 58	12 46	12 31	12 15	11 54
	2	16 21	16 2	15 41	15 16	15 2	14 45	14 26	14 0	13 48	13 35	13 19	13 0	12 36
	3	17 23	17 4	16 44	16 20	16 6	15 50	15 31	15 7	14 55	14 42	14 26	14 8	13 46
	4	18 25	18 8	17 50	17 29	17 17	17 3	16 46	16 25	16 15	16 4	15 51	15 36	15 18
	5	19 24	19 10	18 56	18 40	18 30	18 19	18 6	17 50	17 42	17 34	17 24	17 13	17 1
	6	20 20	20 11	20 1	19 50	19 44	19 36	19 27	19 17	19 12	19 6	19 0	18 53	18 46
	7	21 13	21 9	21 4	20 58	20 55	20 51	20 47	20 42	20 39	20 36	20 34	20 30	20 27
	8	22 4	22 4	22 4	22 4	22 4	22 4	22 5	22 5	22 5	22 5	22 5	22 5	22 4
	9	22 54	22 59	23 4	23 9	23 12	23 16	23 21	23 26	23 28	23 31	23 34	23 37	23 40
	10	23 44	23 53	....	....	....	....	....	....	....	....	....	....	....
	11	....	....	0 2	0 13	0 19	0 26	0 35	0 45	0 50	0 55	1 1	1 8	1 15
	12	0 34	0 47	1 2	1 16	1 25	1 36	1 48	2 3	2 10	2 18	2 27	2 37	2 48
	13	1 26	1 42	1 59	2 19	2 30	2 44	2 59	3 18	3 28	3 38	3 50	4 3	4 19
	14	2 19	2 37	2 57	3 20	3 33	3 48	4 6	4 29	4 40	4 52	5 7	5 24	5 44
	15	3 13	3 32	3 53	4 17	4 31	4 48	5 7	5 32	5 43	5 57	6 12	6 31	6 54
	16	4 6	4 25	4 46	5 10	5 24	5 40	5 59	6 23	6 35	6 48	7 3	7 21	7 43
	17	4 58	5 16	5 35	5 57	6 10	6 25	6 43	7 4	7 15	7 27	7 40	7 56	8 14
	18	5 47	6 3	6 20	6 39	6 50	7 3	7 18	7 37	7 45	7 55	8 6	8 19	8 33
	19	6 34	6 46	7 0	7 16	7 25	7 36	7 48	8 2	8 9	8 16	8 25	8 34	8 45
	20	7 17	7 27	7 37	7 49	7 56	8 4	8 12	8 23	8 28	8 33	8 39	8 46	8 53
	21	7 59	8 5	8 12	8 20	8 24	8 28	8 34	8 41	8 44	8 47	8 50	8 55	8 59
	22	8 40	8 42	8 45	8 48	8 50	8 52	8 54	8 57	8 58	8 59	9 1	9 2	9 4
	23	9 20	9 19	9 18	9 16	9 16	9 14	9 14	9 12	9 12	9 11	9 10	9 10	9 9
	24	10 1	9 56	9 51	9 45	9 41	9 37	9 33	9 28	9 25	9 23	9 20	9 16	9 13
	25	10 43	10 34	10 25	10 15	10 9	10 2	9 54	9 45	9 41	9 36	9 31	9 25	9 19
	26	11 27	11 16	11 3	10 48	10 40	10 30	10 19	10 5	9 59	9 52	9 44	9 36	9 26
	27	12 16	12 0	11 44	11 26	11 15	11 2	10 48	10 30	10 22	10 13	10 2	9 51	9 37
	28	13 8	12 50	12 31	12 9	11 56	11 42	11 24	11 3	10 53	10 41	10 28	10 13	9 55
	29	14 4	13 45	13 24	13 0	12 46	12 30	12 11	11 46	11 34	11 21	11 6	10 47	10 25
	30	15 4	14 44	14 24	13 59	13 45	13 28	13 9	12 44	12 32	12 18	12 2	11 43	11 20
	31	16 5	15 47	15 27	15 5	14 52	14 36	14 18	13 55	13 44	13 32	13 18	13 1	12 41
Aug.	1	17 6	16 50	16 34	16 15	16 4	15 51	15 36	15 18	15 9	14 59	14 48	14 35	14 21
	2	18 4	17 53	17 41	17 27	17 19	17 10	16 58	16 45	16 39	16 32	16 24	16 15	16 6
	3	19 0	18 54	18 46	18 38	18 33	18 28	18 21	18 13	18 10	18 6	18 1	17 56	17 51
	4	19 54	19 52	19 50	19 47	19 46	19 44	19 42	19 40	19 39	19 38	19 36	19 35	19 34
	5	20 46	20 49	20 52	20 55	20 57	20 59	21 2	21 5	21 6	21 8	21 10	21 11	21 13
	6	21 37	21 45	21 53	22 2	22 7	22 12	22 19	22 28	22 32	22 36	22 40	22 46	22 52
	7	22 29	22 41	22 53	23 7	23 14	23 24	23 35	23 49	23 55	....	....	....	....
	8	23 22	23 37	23 53	....	....	....	....	....	....	0 2	0 10	0 18	0 28
	9	....	....	....	0 12	0 22	0 34	0 49	1 7	1 16	1 25	1 36	1 48	2 3
	10	0 15	0 33	0 52	1 13	1 26	1 41	1 58	2 20	2 31	2 42	2 56	3 12	3 30
	11	1 9	1 28	1 48	2 12	2 26	2 42	3 1	3 26	3 37	3 50	4 6	4 24	4 46
	12	2 2	2 22	2 42	3 6	3 21	3 37	3 56	4 21	4 33	4 46	5 1	5 19	5 42
	13	2 54	3 13	3 32	3 55	4 9	4 24	4 42	5 5	5 16	5 28	5 42	5 58	6 18
	14	3 44	4 1	4 18	4 38	4 50	5 4	5 20	5 40	5 49	5 59	6 11	6 24	6 40
	15	4 31	4 45	5 0	5 17	5 27	5 38	5 51	6 7	6 14	6 22	6 32	6 42	6 54
	16	5 16	5 27	5 38	5 51	5 59	6 7	6 17	6 29	6 35	6 41	6 48	6 55	7 4

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	17 38	17 28	17 19	17 7	17 1	16 54	16 45	16 34	16 30	16 24	16 18	16 11	16 3
17	18 19	18 14	18 8	18 1	17 57	17 52	17 47	17 41	17 38	17 34	17 31	17 27	17 23
18	19 0	18 58	18 56	18 53	18 52	18 50	18 49	18 46	18 46	18 44	18 43	18 42	18 40
19	19 40	19 42	19 44	19 46	19 47	19 48	19 51	19 52	19 53	19 54	19 55	19 56	19 58
20	20 21	20 26	20 32	20 39	20 42	20 47	20 52	20 58	21 1	21 4	21 8	21 12	21 16
21	21 3	21 12	21 22	21 33	21 39	21 47	21 55	22 6	22 11	22 16	22 22	22 29	22 36
22	21 48	22 0	22 14	22 29	22 38	22 48	23 0	23 15	23 22	23 29	23 38	23 48	23 59
23	22 35	22 51	23 8	23 27	23 38	23 51	....	....	....	....	....	....	....
24	23 27	23 45	....	....	....	....	0 6	0 25	0 34	0 44	0 56	1 9	1 24
25	....	....	0 4	0 26	0 39	0 54	1 12	1 35	1 45	1 57	2 12	2 28	2 48
26	0 22	0 41	1 2	1 26	1 40	1 56	2 16	2 40	2 52	3 5	3 21	3 40	4 2
27	1 20	1 39	2 0	2 23	2 38	2 54	3 13	3 37	3 49	4 2	4 18	4 36	4 58
28	2 19	2 37	2 56	3 18	3 31	3 46	4 3	4 25	4 35	4 47	5 0	5 16	5 34
29	3 18	3 33	3 50	4 8	4 19	4 31	4 46	5 3	5 11	5 20	5 30	5 42	5 56
30	4 16	4 27	4 39	4 53	5 1	5 10	5 20	5 33	5 39	5 45	5 52	6 0	6 9
31	5 12	5 19	5 26	5 34	5 39	5 45	5 51	5 58	6 2	6 5	6 9	6 14	6 19
Sept. 1	6 6	6 8	6 11	6 13	6 15	6 16	6 18	6 21	6 22	6 23	6 24	6 25	6 27
2	7 0	6 57	6 54	6 51	6 49	6 47	6 45	6 42	6 41	6 39	6 38	6 36	6 34
3	7 53	7 46	7 38	7 29	7 24	7 18	7 12	7 4	7 0	6 57	6 52	6 48	6 42
4	8 46	8 35	8 23	8 9	8 1	7 52	7 41	7 28	7 22	7 16	7 9	7 1	6 52
5	9 41	9 26	9 10	8 52	8 41	8 29	8 15	7 57	7 49	7 40	7 30	7 18	7 5
6	10 36	10 18	10 0	9 38	9 25	9 11	8 54	8 33	8 23	8 12	7 59	7 44	7 26
7	11 31	11 12	10 52	10 28	10 14	9 58	9 40	9 16	9 5	8 52	8 37	8 20	7 59
8	12 25	12 6	11 45	11 21	11 7	10 51	10 32	10 8	9 56	9 43	9 28	9 10	8 48
9	13 17	12 58	12 39	12 17	12 4	11 48	11 30	11 8	10 57	10 45	10 31	10 14	9 55
10	14 6	13 50	13 32	13 12	13 1	12 48	12 32	12 12	12 3	11 52	11 41	11 27	11 11
11	14 52	14 39	14 24	14 8	13 58	13 48	13 34	13 19	13 11	13 3	12 54	12 43	12 30
12	15 36	15 26	15 15	15 3	14 55	14 47	14 38	14 26	14 20	14 14	14 7	14 0	13 51
13	16 18	16 12	16 4	15 56	15 51	15 46	15 39	15 32	15 28	15 25	15 20	15 15	15 10
14	16 59	16 56	16 53	16 49	16 47	16 44	16 41	16 38	16 36	16 34	16 32	16 30	16 28
15	17 40	17 40	17 41	17 41	17 42	17 42	17 43	17 43	17 44	17 44	17 44	17 45	17 45
16	18 20	18 25	18 29	18 34	18 37	18 41	18 45	18 49	18 52	18 54	18 57	19 0	19 3
17	19 2	19 10	19 19	19 28	19 34	19 40	19 48	19 57	20 1	20 5	20 10	20 16	20 23
18	19 46	19 58	20 10	20 24	20 32	20 41	20 52	21 5	21 11	21 18	21 26	21 35	21 44
19	20 33	20 47	21 3	21 21	21 31	21 43	21 57	22 15	22 23	22 32	22 43	22 54	23 8
20	21 23	21 40	21 58	22 19	22 32	22 46	23 3	23 24	23 34	23 45	23 58	....	....
21	22 16	22 34	22 54	23 18	23 31	23 47	....	....	....	....	....	0 14	0 32
22	23 11	23 30	23 51	....	....	....	0 6	0 30	0 41	0 54	1 9	1 26	1 48
23	....	....	....	0 14	0 29	0 45	1 4	1 28	1 40	1 53	2 9	2 27	2 49
24	0 8	0 26	0 46	1 9	1 22	1 37	1 55	2 18	2 29	2 41	2 55	3 11	3 31
25	1 5	1 21	1 39	1 58	2 10	2 24	2 39	2 58	3 7	3 17	3 29	3 42	3 57
26	2 2	2 14	2 28	2 44	2 53	3 4	3 16	3 30	3 37	3 45	3 53	4 3	4 14
27	2 56	3 5	3 15	3 26	3 32	3 39	3 48	3 57	4 2	4 7	4 12	4 18	4 25
28	3 50	3 55	4 0	4 5	4 8	4 12	4 15	4 20	4 23	4 25	4 28	4 31	4 34
29	4 43	4 43	4 43	4 43	4 43	4 43	4 42	4 42	4 42	4 42	4 42	4 42	4 42
30	5 37	5 32	5 27	5 21	5 17	5 14	5 9	5 4	5 2	4 59	4 56	4 53	4 50
Oct. 1	6 31	6 22	6 12	6 0	5 54	5 46	5 38	5 28	5 23	5 18	5 13	5 6	4 59

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	5 16	5 27	5 38	5 51	5 59	6 7	6 17	6 29	6 35	6 41	6 48	6 55	7 4
17	5 58	6 6	6 13	6 22	6 27	6 33	6 40	6 48	6 52	6 55	7 0	7 5	7 10
18	6 39	6 43	6 47	6 52	6 54	6 57	7 0	7 5	7 6	7 8	7 10	7 13	7 16
19	7 19	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 21
20	8 0	7 56	7 52	7 48	7 46	7 43	7 40	7 36	7 34	7 32	7 30	7 28	7 25
21	8 41	8 34	8 26	8 18	8 13	8 7	8 0	7 52	7 49	7 45	7 41	7 35	7 30
22	9 24	9 14	9 2	8 49	8 42	8 33	8 23	8 11	8 6	8 0	7 53	7 46	7 37
23	10 10	9 56	9 42	9 25	9 15	9 3	8 50	8 34	8 27	8 18	8 9	7 59	7 47
24	11 0	10 43	10 26	10 5	9 53	9 39	9 23	9 3	8 54	8 43	8 31	8 18	8 2
25	11 53	11 34	11 14	10 51	10 38	10 22	10 4	9 41	9 30	9 17	9 3	8 46	8 26
26	12 49	12 30	12 9	11 45	11 31	11 14	10 55	10 30	10 18	10 5	9 49	9 30	9 8
27	13 48	13 29	13 9	12 46	12 32	12 16	11 57	11 33	11 22	11 8	10 53	10 35	10 14
28	14 47	14 30	14 13	13 52	13 40	13 26	13 9	12 48	12 38	12 27	12 15	12 0	11 42
29	15 46	15 32	15 18	15 1	14 52	14 41	14 28	14 11	14 4	13 55	13 46	13 35	13 22
30	16 43	16 34	16 24	16 12	16 6	15 58	15 50	15 39	15 34	15 28	15 22	15 15	15 7
31	17 38	17 33	17 28	17 23	17 20	17 16	17 12	17 6	17 4	17 1	16 58	16 55	16 51
Sept. 1	18 32	18 32	18 32	18 32	18 33	18 33	18 33	18 33	18 34	18 34	18 34	18 34	18 34
2	19 25	19 30	19 35	19 42	19 45	19 49	19 54	19 59	20 2	20 5	20 8	20 12	20 16
3	20 18	20 28	20 38	20 50	20 56	21 4	21 13	21 24	21 29	21 35	21 41	21 48	21 56
4	21 12	21 26	21 40	21 57	22 6	22 17	22 31	22 46	22 54	23 2	23 12	23 23	23 35
5	22 7	22 24	22 42	23 2	23 14	23 28	23 44	....	....	....	....	....	....
6	23 2	23 21	23 40	....	....	....	....	0 4	0 14	0 25	0 37	0 52	1 9
7	23 57	....	....	0 4	0 17	0 33	0 51	1 15	1 26	1 38	1 53	2 10	2 31
8	....	0 16	0 37	1 1	1 15	1 31	1 50	2 15	2 26	2 40	2 55	3 13	3 35
9	0 50	1 9	1 29	1 52	2 6	2 21	2 40	3 3	3 14	3 26	3 41	3 58	4 18
10	1 41	1 58	2 16	2 37	2 50	3 4	3 20	3 41	3 50	4 1	4 14	4 28	4 45
11	2 29	2 44	2 59	3 17	3 28	3 40	3 54	4 11	4 19	4 28	4 37	4 49	5 2
12	3 14	3 26	3 38	3 53	4 1	4 10	4 21	4 34	4 40	4 47	4 55	5 3	5 12
13	3 57	4 6	4 14	4 25	4 31	4 38	4 45	4 54	4 59	5 3	5 8	5 14	5 20
14	4 39	4 44	4 49	4 55	4 58	5 2	5 6	5 12	5 14	5 17	5 20	5 23	5 26
15	5 19	5 20	5 22	5 23	5 24	5 25	5 26	5 28	5 28	5 29	5 30	5 31	5 32
16	6 0	5 57	5 55	5 52	5 50	5 48	5 46	5 44	5 42	5 41	5 40	5 38	5 37
17	6 41	6 35	6 28	6 21	6 17	6 12	6 7	6 0	5 58	5 54	5 50	5 46	5 42
18	7 24	7 14	7 4	6 52	6 46	6 38	6 29	6 19	6 14	6 9	6 3	5 56	5 49
19	8 9	7 56	7 42	7 26	7 17	7 7	6 55	6 40	6 34	6 26	6 18	6 8	5 58
20	8 57	8 41	8 24	8 5	7 54	7 41	7 26	7 7	6 59	6 49	6 38	6 26	6 11
21	9 48	9 30	9 11	8 49	8 36	8 21	8 4	7 42	7 31	7 20	7 6	6 51	6 32
22	10 42	10 23	10 2	9 39	9 25	9 9	8 50	8 26	8 15	8 2	7 47	7 29	7 7
23	11 38	11 19	10 59	10 35	10 21	10 6	9 46	9 22	9 11	8 58	8 42	8 24	8 2
24	12 35	12 18	11 59	11 37	11 24	11 10	10 52	10 30	10 20	10 8	9 54	9 39	9 19
25	13 32	13 17	13 1	12 43	12 32	12 20	12 5	11 47	11 39	11 29	11 18	11 6	10 52
26	14 28	14 16	14 4	13 51	13 43	13 34	13 23	13 10	13 3	12 57	12 49	12 40	12 31
27	15 22	15 15	15 8	14 59	14 54	14 49	14 42	14 34	14 31	14 27	14 22	14 17	14 11
28	16 15	16 13	16 11	16 8	16 6	16 4	16 2	16 0	15 58	15 57	15 56	15 54	15 52
29	17 8	17 11	17 14	17 17	17 18	17 20	17 23	17 26	17 27	17 28	17 30	17 32	17 34
30	18 2	18 9	18 17	18 26	18 31	18 36	18 43	18 51	18 55	18 59	19 4	19 9	19 15
Oct. 1	18 57	19 8	19 20	19 35	19 43	19 52	20 3	20 16	20 23	20 30	20 38	20 46	20 56

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

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Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 1	6 31	6 22	6 12	6 0	5 54	5 46	5 38	5 28	5 23	5 18	5 13	5 6	4 59
2	7 26	7 13	6 59	6 43	6 33	6 23	6 10	5 55	5 48	5 41	5 32	5 23	5 12
3	8 22	8 6	7 49	7 29	7 17	7 4	6 48	6 29	6 20	6 10	5 58	5 45	5 30
4	9 19	9 1	8 42	8 19	8 6	7 50	7 32	7 10	6 59	6 47	6 33	6 17	5 58
5	10 16	9 56	9 36	9 13	8 59	8 43	8 24	8 0	7 49	7 36	7 21	7 4	6 42
6	11 9	10 51	10 31	10 8	9 55	9 40	9 22	8 59	8 48	8 35	8 21	8 4	7 44
7	12 1	11 44	11 26	11 5	10 53	10 40	10 23	10 2	9 53	9 42	9 29	9 15	8 58
8	12 49	12 34	12 19	12 2	11 51	11 40	11 26	11 9	11 1	10 52	10 42	10 30	10 17
9	13 34	13 22	13 10	12 56	12 49	12 40	12 29	12 16	12 10	12 3	11 55	11 47	11 37
10	14 16	14 8	14 0	13 50	13 45	13 38	13 31	13 22	13 18	13 14	13 9	13 3	12 56
11	14 58	14 53	14 48	14 43	14 40	14 37	14 33	14 28	14 26	14 23	14 21	14 17	14 14
12	15 38	15 37	15 37	15 36	15 35	15 35	15 34	15 33	15 33	15 33	15 32	15 32	15 32
13	16 19	16 22	16 25	16 28	16 31	16 33	16 36	16 39	16 41	16 42	16 44	16 46	16 49
14	17 1	17 7	17 14	17 22	17 27	17 32	17 39	17 46	17 50	17 54	17 58	18 2	18 8
15	17 44	17 55	18 6	18 18	18 25	18 33	18 43	18 55	19 0	19 6	19 13	19 21	19 29
16	18 30	18 43	18 58	19 15	19 25	19 36	19 49	20 5	20 12	20 21	20 30	20 41	20 54
17	19 20	19 36	19 54	20 14	20 25	20 39	20 55	21 14	21 24	21 34	21 46	22 0	22 17
18	20 12	20 30	20 50	21 12	21 26	21 41	21 59	22 22	22 32	22 45	22 59	23 16	23 36
19	21 7	21 26	21 46	22 10	22 24	22 40	22 59	23 23	23 34	23 47	....	....	....
20	22 3	22 21	22 41	23 4	23 18	23 33	23 52	....	....	....	0 2	0 20	0 42
21	22 59	23 16	23 34	23 54	....	....	....	0 14	0 25	0 38	0 52	1 9	1 28
22	23 54	....	....	....	0 6	0 20	0 36	0 57	1 6	1 17	1 29	1 43	1 59
23	....	0 8	0 23	0 40	0 50	1 1	1 15	1 31	1 38	1 46	1 56	2 6	2 19
24	0 48	0 58	1 9	1 22	1 29	1 37	1 47	1 58	2 4	2 10	2 16	2 23	2 31
25	1 40	1 46	1 53	2 0	2 4	2 10	2 15	2 22	2 25	2 28	2 32	2 37	2 41
26	2 31	2 33	2 35	2 37	2 38	2 40	2 42	2 44	2 44	2 46	2 46	2 48	2 49
27	3 22	3 20	3 17	3 14	3 12	3 10	3 7	3 4	3 4	3 2	3 1	2 59	2 57
28	4 15	4 8	4 0	3 52	3 47	3 41	3 35	3 27	3 24	3 20	3 16	3 11	3 6
29	5 9	4 58	4 46	4 32	4 24	4 15	4 5	3 53	3 47	3 41	3 34	3 26	3 17
30	6 5	5 50	5 35	5 17	5 6	4 54	4 40	4 23	4 15	4 6	3 57	3 45	3 32
31	7 3	6 46	6 27	6 6	5 53	5 39	5 22	5 1	4 51	4 40	4 28	4 13	3 56
Nov. 1	8 1	7 42	7 22	6 59	6 45	6 30	6 11	5 48	5 37	5 24	5 10	4 53	4 33
2	8 57	8 38	8 18	7 55	7 42	7 26	7 8	6 44	6 33	6 20	6 6	5 49	5 27
3	9 51	9 33	9 15	8 53	8 41	8 26	8 9	7 48	7 38	7 26	7 13	6 58	6 39
4	10 41	10 26	10 10	9 51	9 40	9 28	9 13	8 55	8 46	8 37	8 26	8 13	7 59
5	11 28	11 16	11 2	10 48	10 39	10 29	10 17	10 3	9 56	9 48	9 40	9 30	9 20
6	12 12	12 3	11 53	11 42	11 36	11 29	11 20	11 10	11 5	11 0	10 54	10 48	10 40
7	12 54	12 48	12 42	12 36	12 32	12 27	12 22	12 16	12 13	12 10	12 6	12 2	11 58
8	13 35	13 33	13 30	13 28	13 27	13 25	13 24	13 21	13 20	13 19	13 18	13 17	13 15
9	14 15	14 17	14 18	14 21	14 22	14 23	14 24	14 26	14 27	14 28	14 29	14 30	14 32
10	14 56	15 2	15 7	15 14	15 18	15 22	15 27	15 33	15 36	15 39	15 42	15 46	15 50
11	15 40	15 48	15 58	16 9	16 15	16 22	16 31	16 41	16 46	16 51	16 57	17 4	17 11
12	16 25	16 37	16 51	17 6	17 14	17 24	17 36	17 51	17 58	18 5	18 13	18 23	18 34
13	17 14	17 29	17 46	18 4	18 15	18 28	18 43	19 2	19 10	19 20	19 31	19 44	19 59
14	18 6	18 24	18 42	19 4	19 17	19 32	19 49	20 11	20 21	20 33	20 47	21 2	21 21
15	19 1	19 20	19 40	20 3	20 17	20 32	20 52	21 15	21 26	21 39	21 54	22 12	22 33
16	19 58	20 16	20 36	21 0	21 13	21 29	21 48	22 11	22 22	22 35	22 49	23 6	23 27

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 1	18 57	19 8	19 20	19 35	19 43	19 52	20 3	20 16	20 23	20 30	20 38	20 46	20 56
2	19 53	20 8	20 24	20 43	20 54	21 6	21 21	21 39	21 47	21 57	22 8	22 20	22 35
3	20 50	21 7	21 26	21 48	22 1	22 16	22 33	22 55	23 5	23 17	23 31	23 46	....
4	21 46	22 5	22 26	22 49	23 3	23 19	23 38	....	....	....	....	....	0 5
5	22 42	23 1	23 21	23 44	23 58	....	....	0 1	0 13	0 26	0 41	0 58	1 20
6	23 34	23 52	....	....	....	0 14	0 32	0 56	1 7	1 20	1 34	1 51	2 12
7	....	....	0 11	0 33	0 45	1 0	1 17	1 38	1 49	2 0	2 13	2 28	2 46
8	0 24	0 40	0 56	1 15	1 26	1 39	1 54	2 12	2 20	2 29	2 40	2 52	3 6
9	1 11	1 24	1 37	1 52	2 1	2 12	2 23	2 38	2 44	2 52	3 0	3 9	3 20
10	1 55	2 4	2 14	2 26	2 32	2 40	2 49	2 59	3 4	3 9	3 15	3 22	3 29
11	2 37	2 43	2 49	2 56	3 1	3 5	3 11	3 17	3 20	3 24	3 27	3 31	3 36
12	3 17	3 20	3 22	3 26	3 27	3 29	3 32	3 34	3 35	3 37	3 38	3 40	3 42
13	3 58	3 57	3 56	3 54	3 53	3 52	3 51	3 50	3 49	3 49	3 48	3 48	3 47
14	4 39	4 34	4 29	4 23	4 20	4 16	4 12	4 7	4 5	4 2	3 59	3 56	3 53
15	5 22	5 13	5 4	4 54	4 49	4 42	4 34	4 25	4 21	4 16	4 11	4 6	3 59
16	6 6	5 55	5 42	5 28	5 20	5 10	4 59	4 46	4 40	4 33	4 26	4 17	4 8
17	6 54	6 39	6 24	6 6	5 55	5 43	5 29	5 12	5 4	4 55	4 45	4 34	4 20
18	7 45	7 28	7 9	6 48	6 36	6 22	6 5	5 44	5 34	5 23	5 11	4 56	4 39
19	8 38	8 20	8 0	7 37	7 23	7 8	6 49	6 26	6 15	6 2	5 48	5 31	5 10
20	9 34	9 15	8 54	8 31	8 17	8 1	7 42	7 18	7 7	6 54	6 39	6 21	5 59
21	10 30	10 12	9 53	9 31	9 18	9 3	8 44	8 22	8 11	7 59	7 45	7 29	7 9
22	11 26	11 10	10 53	10 34	10 22	10 9	9 54	9 35	9 26	9 15	9 4	8 51	8 35
23	12 20	12 7	11 54	11 39	11 30	11 20	11 8	10 53	10 46	10 38	10 30	10 20	10 9
24	13 12	13 4	12 55	12 44	12 38	12 32	12 23	12 14	12 9	12 4	11 58	11 52	11 45
25	14 4	14 0	13 55	13 50	13 47	13 44	13 40	13 36	13 33	13 31	13 28	13 25	13 22
26	14 55	14 56	14 56	14 57	14 57	14 57	14 57	14 58	14 58	14 58	14 58	14 58	14 59
27	15 47	15 52	15 57	16 4	16 7	16 11	16 16	16 21	16 24	16 27	16 30	16 33	16 37
28	16 39	16 50	17 0	17 11	17 18	17 25	17 34	17 45	17 50	17 55	18 2	18 8	18 16
29	17 36	17 49	18 3	18 20	18 29	18 40	18 53	19 8	19 16	19 24	19 33	19 44	19 56
30	18 33	18 49	19 7	19 27	19 39	19 52	20 8	20 28	20 38	20 48	21 1	21 15	21 31
31	19 31	19 49	20 9	20 31	20 44	21 0	21 18	21 41	21 52	22 4	22 18	22 35	22 55
Nov. 1	20 28	20 47	21 7	21 30	21 44	22 0	22 19	22 42	22 54	23 6	23 21	23 38	....
2	21 24	21 42	22 1	22 23	22 36	22 51	23 9	23 31	23 42	23 54	....	....	0 0
3	22 18	22 32	22 49	23 9	23 21	23 34	23 50	....	....	....	0 7	0 23	0 42
4	23 6	23 18	23 33	23 49	23 59	....	....	0 9	0 18	0 28	0 40	0 53	1 8
5	23 50	....	....	....	....	0 10	0 23	0 39	0 46	0 54	1 3	1 13	1 25
6	....	0 0	0 12	0 25	0 32	0 40	0 50	1 2	1 7	1 13	1 20	1 27	1 36
7	0 33	0 40	0 47	0 56	1 2	1 7	1 14	1 22	1 25	1 29	1 34	1 38	1 44
8	1 14	1 18	1 22	1 26	1 29	1 32	1 35	1 39	1 41	1 43	1 45	1 48	1 50
9	1 54	1 54	1 55	1 55	1 55	1 55	1 55	1 55	1 56	1 56	1 56	1 56	1 56
10	2 35	2 32	2 28	2 24	2 21	2 19	2 16	2 12	2 10	2 8	2 6	2 4	2 1
11	3 17	3 10	3 3	2 54	2 49	2 44	2 37	2 30	2 26	2 22	2 18	2 13	2 8
12	4 1	3 51	3 40	3 27	3 20	3 11	3 1	2 50	2 44	2 38	2 32	2 24	2 16
13	4 48	4 35	4 20	4 3	3 54	3 42	3 30	3 14	3 6	2 58	2 49	2 39	2 27
14	5 39	5 22	5 5	4 45	4 33	4 19	4 4	3 44	3 35	3 25	3 13	3 0	2 44
15	6 32	6 14	5 55	5 32	5 19	5 4	4 46	4 24	4 13	4 1	3 47	3 31	3 12
16	7 28	7 9	6 49	6 26	6 12	5 56	5 37	5 14	5 2	4 49	4 34	4 17	3 55

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	19 58	20 16	20 36	21 0	21 13	21 29	21 48	22 11	22 22	22 35	22 49	23 6	23 27
17	20 55	21 12	21 30	21 52	22 4	22 19	22 36	22 56	23 6	23 18	23 30	23 45	....
18	21 50	22 5	22 21	22 39	22 49	23 2	23 16	23 33	23 40	23 50	....	....	0 2
19	22 44	22 55	23 8	23 21	23 29	23 38	23 49	....	....	....	0 0	0 11	0 24
20	23 36	23 43	23 51	....	....	....	....	0 2	0 8	0 14	0 21	0 29	0 38
21	....	....	....	0 0	0 5	0 11	0 18	0 26	0 30	0 34	0 38	0 44	0 49
22	0 26	0 29	0 33	0 36	0 39	0 41	0 44	0 48	0 49	0 51	0 53	0 55	0 58
23	1 16	1 14	1 13	1 12	1 11	1 10	1 9	1 8	1 8	1 7	1 6	1 6	1 5
24	2 6	2 0	1 55	1 48	1 44	1 40	1 35	1 29	1 27	1 24	1 21	1 17	1 13
25	2 58	2 48	2 38	2 26	2 19	2 12	2 3	1 53	1 48	1 43	1 37	1 30	1 23
26	3 51	3 38	3 24	3 8	2 58	2 47	2 35	2 20	2 13	2 5	1 56	1 47	1 36
27	4 47	4 31	4 14	3 54	3 42	3 29	3 13	2 54	2 45	2 35	2 23	2 10	1 55
28	5 45	5 26	5 7	4 45	4 32	4 16	3 59	3 36	3 26	3 14	3 0	2 45	2 26
29	6 42	6 23	6 3	5 40	5 26	5 11	4 52	4 29	4 18	4 5	3 50	3 33	3 12
30	7 38	7 20	7 0	6 38	6 25	6 10	5 52	5 30	5 19	5 7	4 53	4 37	4 17
Dec. 1	8 30	8 14	7 57	7 37	7 26	7 12	6 56	6 36	6 27	6 17	6 5	5 51	5 35
2	9 20	9 6	8 52	8 35	8 26	8 14	8 1	7 46	7 39	7 30	7 20	7 10	6 57
3	10 6	9 55	9 44	9 31	9 24	9 16	9 6	8 54	8 49	8 42	8 36	8 28	8 19
4	10 48	10 42	10 34	10 26	10 21	10 15	10 9	10 1	9 58	9 54	9 49	9 44	9 39
5	11 30	11 26	11 23	11 19	11 16	11 14	11 11	11 7	11 5	11 3	11 1	10 59	10 56
6	12 10	12 11	12 11	12 11	12 11	12 12	12 12	12 12	12 12	12 12	12 13	12 13	12 13
7	12 51	12 55	12 59	13 4	13 7	13 10	13 13	13 17	13 20	13 22	13 24	13 27	13 30
8	13 33	13 40	13 48	13 57	14 2	14 9	14 16	14 24	14 28	14 32	14 37	14 43	14 49
9	14 17	14 28	14 40	14 53	15 1	15 10	15 20	15 33	15 39	15 45	15 53	16 1	16 10
10	15 4	15 18	15 33	15 51	16 1	16 12	16 26	16 43	16 51	17 0	17 10	17 21	17 34
11	15 55	16 12	16 30	16 50	17 2	17 16	17 33	17 53	18 3	18 14	18 26	18 41	18 58
12	16 50	17 8	17 28	17 50	18 4	18 19	18 38	19 1	19 12	19 25	19 39	19 56	20 17
13	17 47	18 6	18 26	18 49	19 3	19 19	19 38	20 1	20 13	20 26	20 40	20 58	21 19
14	18 45	19 3	19 22	19 44	19 57	20 12	20 30	20 52	21 2	21 14	21 28	21 43	22 2
15	19 43	19 59	20 15	20 35	20 46	20 59	21 14	21 33	21 41	21 51	22 2	22 15	22 29
16	20 39	20 51	21 5	21 20	21 29	21 39	21 51	22 5	22 11	22 18	22 27	22 36	22 46
17	21 32	21 41	21 50	22 1	22 7	22 14	22 22	22 31	22 35	22 40	22 46	22 52	22 58
18	22 23	22 28	22 33	22 38	22 41	22 45	22 49	22 54	22 56	22 58	23 1	23 4	23 7
19	23 13	23 13	23 14	23 14	23 14	23 14	23 14	23 14	23 14	23 14	23 15	23 15	23 15
20	....	23 59	23 54	23 49	23 46	23 43	23 39	23 35	23 33	23 31	23 28	23 26	23 23
21	0 3	....	....	....	....	....	....	23 57	23 53	23 48	23 43	23 38	23 32
22	0 53	0 45	0 36	0 26	0 20	0 13	0 6	....	....	....	....	23 52	23 45
23	1 45	1 32	1 20	1 5	0 56	0 47	0 35	0 22	0 16	0 9	0 1	....	23 55
24	2 38	2 23	2 7	1 48	1 37	1 25	1 10	0 52	0 44	0 35	0 24	0 13	....
25	3 34	3 16	2 57	2 36	2 23	2 9	1 52	1 30	1 20	1 9	0 56	0 41	0 24
26	4 30	4 11	3 51	3 28	3 15	2 59	2 41	2 18	2 7	1 54	1 40	1 23	1 2
27	5 26	5 7	4 48	4 25	4 11	3 56	3 37	3 14	3 3	2 51	2 36	2 20	1 59
28	6 19	6 2	5 44	5 23	5 11	4 57	4 40	4 19	4 9	3 57	3 45	3 30	3 12
29	7 10	6 56	6 40	6 22	6 11	5 59	5 45	5 27	5 19	5 10	4 59	4 47	4 33
30	7 58	7 46	7 34	7 19	7 11	7 2	6 50	6 37	6 30	6 23	6 15	6 6	5 56
31	8 43	8 34	8 25	8 15	8 9	8 2	7 54	7 45	7 40	7 36	7 30	7 24	7 17
32	9 25	9 20	9 15	9 9	9 6	9 2	8 57	8 52	8 50	8 47	8 44	8 40	8 36

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours, if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	7 28	7 9	6 49	6 26	6 12	5 56	5 37	5 14	5 2	4 49	4 34	4 17	3 55
17	8 26	8 7	7 47	7 25	7 12	6 56	6 38	6 15	6 4	5 52	5 37	5 20	5 0
18	9 22	9 5	8 48	8 28	8 16	8 2	7 46	7 26	7 16	7 6	6 54	6 40	6 23
19	10 16	10 3	9 48	9 32	9 23	9 12	8 59	8 43	8 36	8 27	8 18	8 7	7 55
20	11 9	10 59	10 49	10 37	10 30	10 23	10 14	10 2	9 57	9 51	9 45	9 38	9 30
21	12 0	11 54	11 48	11 42	11 38	11 33	11 28	11 22	11 19	11 16	11 12	11 8	11 4
22	12 50	12 48	12 47	12 46	12 45	12 44	12 43	12 42	12 41	12 40	12 40	12 39	12 38
23	13 39	13 42	13 46	13 50	13 53	13 55	13 58	14 2	14 3	14 6	14 7	14 10	14 12
24	14 30	14 38	14 46	14 55	15 1	15 7	15 14	15 23	15 27	15 31	15 36	15 41	15 48
25	15 23	15 35	15 47	16 1	16 10	16 19	16 30	16 43	16 50	16 57	17 5	17 14	17 24
26	16 18	16 33	16 49	17 8	17 18	17 31	17 46	18 4	18 12	18 22	18 33	18 45	19 0
27	17 15	17 32	17 51	18 13	18 25	18 40	18 57	19 19	19 29	19 41	19 54	20 10	20 29
28	18 12	18 31	18 51	19 14	19 28	19 44	20 2	20 26	20 37	20 50	21 4	21 21	21 43
29	19 9	19 28	19 48	20 10	20 24	20 39	20 58	21 21	21 32	21 44	21 58	22 15	22 35
30	20 4	20 21	20 39	21 0	21 12	21 26	21 43	22 4	22 13	22 24	22 37	22 51	23 8
Dec. 1	20 55	21 10	21 25	21 43	21 54	22 6	22 20	22 37	22 45	22 54	23 4	23 15	23 28
2	21 42	21 54	22 7	22 21	22 30	22 39	22 50	23 3	23 10	23 16	23 24	23 32	23 42
3	22 27	22 35	22 44	22 55	23 1	23 8	23 15	23 25	23 29	23 34	23 39	23 45	23 51
4	23 9	23 14	23 19	23 26	23 29	23 33	23 38	23 43	23 46	23 48	23 52	23 55	23 59
5	23 50	23 51	23 53	23 55	23 56	23 57	23 58	....	....	....	....	....	....
6	....	....	....	....	....	....	....	0 0	0 1	0 2	0 2	0 4	0 5
7	0 30	0 28	0 26	0 23	0 22	0 20	0 18	0 16	0 15	0 14	0 13	0 11	0 10
8	1 11	1 6	1 0	0 53	0 49	0 44	0 39	0 33	0 31	0 28	0 24	0 20	0 16
9	1 54	1 45	1 35	1 24	1 18	1 11	1 2	0 52	0 48	0 42	0 37	0 31	0 24
10	2 39	2 27	2 14	1 59	1 50	1 40	1 28	1 14	1 8	1 1	0 52	0 44	0 33
11	3 28	3 13	2 57	2 38	2 27	2 14	2 0	1 42	1 33	1 24	1 13	1 2	0 48
12	4 21	4 3	3 45	3 23	3 10	2 56	2 39	2 17	2 7	1 56	1 43	1 28	1 10
13	5 17	4 58	4 38	4 15	4 1	3 45	3 27	3 3	2 52	2 39	2 25	2 7	1 47
14	6 15	5 56	5 36	5 13	4 59	4 44	4 25	4 1	3 50	3 37	3 22	3 5	2 44
15	7 13	6 56	6 37	6 16	6 4	5 50	5 32	5 11	5 1	4 50	4 37	4 21	4 3
16	8 10	7 55	7 40	7 22	7 12	7 0	6 46	6 29	6 20	6 11	6 1	5 49	5 35
17	9 4	8 54	8 42	8 29	8 21	8 12	8 2	7 49	7 43	7 37	7 30	7 21	7 12
18	9 57	9 50	9 43	9 35	9 30	9 24	9 18	9 10	9 7	9 3	8 59	8 54	8 48
19	10 47	10 45	10 42	10 39	10 38	10 36	10 34	10 31	10 30	10 28	10 27	10 25	10 23
20	11 37	11 39	11 41	11 44	11 45	11 46	11 48	11 51	11 52	11 53	11 54	11 55	11 57
21	12 26	12 33	12 40	12 47	12 52	12 57	13 3	13 10	13 13	13 17	13 21	13 25	13 30
22	13 17	13 28	13 39	13 52	13 59	14 7	14 17	14 29	14 35	14 41	14 48	14 56	15 4
23	14 10	14 24	14 39	14 56	15 6	15 17	15 31	15 48	15 55	16 4	16 14	16 25	16 38
24	15 5	15 22	15 40	16 0	16 12	16 26	16 43	17 3	17 13	17 24	17 36	17 51	18 8
25	16 1	16 19	16 39	17 2	17 15	17 30	17 49	18 12	18 23	18 35	18 50	19 6	19 27
26	16 57	17 16	17 36	17 59	18 13	18 29	18 47	19 10	19 22	19 34	19 49	20 6	20 27
27	17 52	18 10	18 29	18 51	19 4	19 19	19 37	19 58	20 9	20 20	20 34	20 49	21 7
28	18 45	19 1	19 18	19 37	19 49	20 2	20 17	20 36	20 44	20 54	21 5	21 18	21 33
29	19 34	19 47	20 1	20 17	20 27	20 37	20 50	21 4	21 12	21 19	21 28	21 38	21 48
30	20 20	20 30	20 41	20 53	21 0	21 8	21 17	21 28	21 33	21 39	21 45	21 52	21 59
31	21 4	21 10	21 17	21 25	21 30	21 35	21 40	21 48	21 51	21 54	21 58	22 3	22 8
32	21 45	21 48	21 51	21 55	21 57	21 59	22 2	22 5	22 7	22 8	22 10	22 12	22 14

FOR NORTHERN STATIONS NOT ON THE MERIDIAN OF GREENWICH, AND FOR SOUTHERN STATIONS.

For northern stations not on the meridian of Greenwich.—For longitudes twelve hours or less west from Greenwich, obtain the data for the given latitude from Table III for the given date and for the date following; for longitudes twelve hours or less east from Greenwich, obtain the data for the given latitude from Table III for the given date and for the date preceding. Subtract the time on the earlier date from the time on the later and multiply the difference by the twenty-fourth part of the longitude in hours and decimals of an hour, positive if west, negative if east. Apply the product as a correction to the time on the given date.

For southern stations.—The instant of moonrise or moonset for any station south of the equator is that of moonset or moonrise, respectively, at a place of the same latitude north of the equator whose longitude is twelve hours different from that of the southern station.

If the southern station be twelve hours or less west from Greenwich and the phenomenon at that station occurs between noon and midnight, the local astronomical day will be the same at the southern and northern stations. If, however, the phenomenon at the southern station occurs between midnight and noon, the local astronomical day at the northern station will be one day later than at the southern.

If the southern station be twelve hours or less east from Greenwich and the phenomenon at that station occurs between noon and midnight, the local astronomical day at the northern station will be one less than at the southern station. If, however, the phenomenon occurs between midnight and noon, the local astronomical day will be the same at the two stations.

Having thus determined the true astronomical day at the northern station, compute by the rule for northern latitudes. For the desired local time of moonrise at the southern station change the time of moonset at the northern station twelve hours. For the desired local time of moonset at the southern station change the time of moonrise at the northern station twelve hours.

Example.—December 10, 1917, civil date, find the time of moonrise and moonset in longitude $4^h\ 43^m$ west from Greenwich and in latitude 33° 30′ south.

The longitude of the northern station is $7^h.3$ east from Greenwich and its latitude is 33°.5 N. Upon inspection of Table III it is seen that the astronomical day at the southern station is December 9 for moonrise and December 10 for moonset, the former phenomenon occurring between midnight and noon, the latter between noon and midnight. For the northern station, in accordance with the precepts given above, both phenomena are to be computed for December 10.

At northern station—

	Moonrise.	Moonset.
	d h m	d h m
Table III, Lat. +33°.5	Dec. 9 14 59	Dec. 9 1 20
Table III, Lat. +33°.5	10 15 58	10 1 53
Difference	59	33
Product of Diff. by $-\frac{7.3}{24}$	−18	−10
Local astronomical mean time	15 40	1 43

At southern station—

	Moonset.	Moonrise.
Local astronomical mean time	3 40	13 43
Civil time	Dec. 10 3 40 P.M.	Dec. 10 1 43 A.M.

1918.

TABLE IV.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 0	18 0	18 17	18 35	18 56	19 8	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 3
1	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 32	20 46	21 3
2	18 1	18 18	18 36	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 45	21 2
3	18 1	18 18	18 36	18 57	19 9	19 22	19 39	19 59	20 8	20 19	20 31	20 45	21 1
4	18 1	18 18	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 18	20 30	20 44	21 1
5	18 2	18 19	18 36	18 57	19 9	19 22	19 38	19 58	20 7	20 18	20 30	20 44	21 0
6	18 2	18 19	18 37	18 57	19 9	19 22	19 38	19 58	20 7	20 18	20 29	20 43	20 59
7	18 3	18 19	18 37	18 57	19 9	19 22	19 38	19 58	20 7	20 17	20 29	20 42	20 58
8	18 3	18 20	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 16	20 28	20 41	20 57
9	18 4	18 20	18 37	18 57	19 9	19 22	19 38	19 56	20 6	20 16	20 27	20 40	20 56
10	18 4	18 20	18 38	18 57	19 9	19 22	19 37	19 56	20 5	20 15	20 26	20 40	20 55
11	18 4	18 20	18 38	18 57	19 8	19 22	19 37	19 56	20 4	20 14	20 26	20 38	20 53
12	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 55	20 4	20 14	20 25	20 37	20 52
13	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 54	20 3	20 13	20 24	20 36	20 51
14	18 6	18 21	18 38	18 57	19 8	19 21	19 36	19 54	20 2	20 12	20 23	20 35	20 49
15	18 6	18 22	18 38	18 57	19 8	19 20	19 35	19 53	20 1	20 11	20 22	20 34	20 48
16	18 6	18 22	18 38	18 57	19 8	19 20	19 34	19 52	20 0	20 10	20 20	20 32	20 46
17	18 7	18 22	18 38	18 56	19 7	19 19	19 34	19 51	20 0	20 9	20 19	20 31	20 45
18	18 7	18 22	18 38	18 56	19 7	19 19	19 33	19 50	19 58	20 7	20 18	20 29	20 43
19	18 7	18 22	18 38	18 56	19 6	19 18	19 32	19 49	19 58	20 6	20 16	20 28	20 41
20	18 8	18 22	18 38	18 56	19 6	19 18	19 32	19 48	19 56	20 5	20 15	20 26	20 39
21	18 8	18 23	18 38	18 56	19 6	19 17	19 31	19 47	19 55	20 4	20 14	20 25	20 38
22	18 8	18 23	18 38	18 55	19 5	19 17	19 30	19 46	19 54	20 2	20 12	20 23	20 36
23	18 8	18 23	18 38	18 55	19 4	19 16	19 29	19 45	19 53	20 1	20 10	20 21	20 34
24	18 9	18 23	18 38	18 54	19 4	19 15	19 28	19 44	19 52	20 0	20 9	20 19	20 32
25	18 9	18 23	18 37	18 54	19 4	19 14	19 27	19 43	19 50	19 58	20 7	20 18	20 30
26	18 9	18 23	18 37	18 54	19 3	19 14	19 26	19 42	19 49	19 57	20 6	20 16	20 27
27	18 9	18 23	18 37	18 53	19 2	19 13	19 25	19 40	19 48	19 55	20 4	20 14	20 25
28	18 10	18 23	18 37	18 53	19 2	19 12	19 24	19 39	19 46	19 54	20 2	20 12	20 23
29	18 10	18 23	18 36	18 52	19 1	19 11	19 23	19 38	19 45	19 52	20 0	20 10	20 21
30	18 10	18 23	18 36	18 52	19 0	19 10	19 22	19 36	19 43	19 50	19 59	20 8	20 18
31	18 10	18 23	18 36	18 51	19 0	19 10	19 21	19 35	19 42	19 49	19 57	20 6	20 16
Feb. 1	18 10	18 22	18 36	18 50	18 59	19 9	19 20	19 34	19 40	19 47	19 55	20 4	20 14
2	18 10	18 22	18 35	18 50	18 58	19 8	19 19	19 32	19 38	19 45	19 53	20 2	20 11
3	18 10	18 22	18 35	18 49	18 57	19 7	19 18	19 31	19 37	19 44	19 51	20 0	20 9
4	18 10	18 22	18 34	18 49	18 56	19 6	19 16	19 29	19 35	19 42	19 49	19 57	20 7
5	18 11	18 22	18 34	18 48	18 56	19 5	19 15	19 28	19 33	19 40	19 47	19 55	20 4
6	18 11	18 22	18 34	18 47	18 55	19 4	19 14	19 26	19 32	19 38	19 45	19 53	20 2
7	18 11	18 22	18 33	18 46	18 54	19 2	19 12	19 24	19 30	19 36	19 43	19 50	19 59
8	18 11	18 21	18 33	18 46	18 53	19 1	19 11	19 23	19 28	19 34	19 41	19 48	19 56
9	18 11	18 21	18 32	18 45	18 52	19 0	19 10	19 21	19 26	19 32	19 39	19 46	19 54
10	18 11	18 21	18 32	18 44	18 51	18 59	19 8	19 20	19 24	19 30	19 36	19 44	19 51
11	18 11	18 21	18 31	18 43	18 50	18 58	19 7	19 18	19 23	19 28	19 34	19 41	19 49
12	18 11	18 20	18 31	18 42	18 49	18 57	19 5	19 16	19 21	19 26	19 32	19 39	19 46
13	18 11	18 20	18 30	18 42	18 48	18 55	19 4	19 14	19 19	19 24	19 30	19 36	19 43
14	18 11	18 20	18 30	18 41	18 47	18 54	19 2	19 12	19 17	19 22	19 28	19 34	19 41
15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 11	19 15	19 20	19 25	19 31	19 38

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.		0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	1	6 7	5 50	5 32	5 11	4 59	4 45	4 29	4 8	3 59	3 48	3 36	3 21	3 4
	2	6 8	5 51	5 32	5 12	5 0	4 46	4 30	4 9	4 0	3 49	3 37	3 22	3 6
	3	6 8	5 51	5 33	5 12	5 0	4 47	4 30	4 10	4 1	3 50	3 38	3 24	3 7
	4	6 9	5 52	5 34	5 13	5 1	4 48	4 32	4 12	4 2	3 51	3 39	3 25	3 9
	5	6 9	5 52	5 34	5 14	5 2	4 48	4 32	4 12	4 3	3 53	3 41	3 27	3 10
	6	6 10	5 53	5 35	5 15	5 3	4 49	4 33	4 14	4 4	3 54	3 42	3 28	3 12
	7	6 10	5 53	5 36	5 15	5 4	4 50	4 34	4 15	4 6	3 55	3 44	3 30	3 14
	8	6 10	5 54	5 36	5 16	5 4	4 51	4 36	4 16	4 7	3 57	3 45	3 32	3 15
	9	6 11	5 54	5 37	5 17	5 5	4 52	4 37	4 17	4 8	3 58	3 47	3 33	3 18
	10	6 11	5 55	5 38	5 18	5 6	4 53	4 38	4 19	4 10	4 0	3 48	3 35	3 20
	11	6 12	5 55	5 38	5 19	5 7	4 54	4 39	4 20	4 11	4 1	3 50	3 37	3 22
	12	6 12	5 56	5 39	5 19	5 8	4 55	4 40	4 21	4 12	4 3	3 52	3 39	3 24
	13	6 12	5 56	5 40	5 20	5 9	4 56	4 41	4 23	4 14	4 4	3 53	3 41	3 26
	14	6 13	5 57	5 40	5 21	5 10	4 57	4 42	4 24	4 16	4 6	3 55	3 43	3 28
	15	6 13	5 58	5 41	5 22	5 11	4 59	4 44	4 26	4 17	4 8	3 57	3 45	3 30
	16	6 13	5 58	5 42	5 23	5 12	5 0	4 45	4 27	4 19	4 9	3 59	3 47	3 33
	17	6 14	5 58	5 42	5 24	5 13	5 1	4 46	4 29	4 20	4 11	4 1	3 49	3 35
	18	6 14	5 59	5 43	5 25	5 14	5 2	4 48	4 30	4 22	4 13	4 2	3 51	3 37
	19	6 14	5 59	5 44	5 25	5 15	5 3	4 49	4 32	4 24	4 15	4 4	3 53	3 40
	20	6 15	6 0	5 44	5 26	5 16	5 4	4 50	4 33	4 25	4 16	4 6	3 55	3 42
	21	6 15	6 0	5 45	5 27	5 17	5 5	4 52	4 35	4 27	4 18	4 8	3 57	3 44
	22	6 15	6 1	5 45	5 28	5 18	5 6	4 53	4 36	4 29	4 20	4 10	4 0	3 47
	23	6 15	6 1	5 46	5 29	5 19	5 8	4 54	4 38	4 30	4 22	4 12	4 2	3 49
	24	6 16	6 2	5 47	5 29	5 20	5 9	4 56	4 40	4 32	4 24	4 15	4 4	3 52
	25	6 16	6 2	5 47	5 31	5 21	5 10	4 57	4 41	4 34	4 26	4 17	4 6	3 54
	26	6 16	6 2	5 48	5 32	5 22	5 11	4 58	4 43	4 36	4 28	4 19	4 8	3 57
	27	6 16	6 3	5 49	5 32	5 23	5 12	5 0	4 45	4 38	4 30	4 21	4 11	3 59
	28	6 17	6 3	5 49	5 33	5 24	5 14	5 1	4 46	4 39	4 32	4 23	4 13	4 2
	29	6 17	6 4	5 50	5 34	5 25	5 15	5 3	4 48	4 41	4 34	4 25	4 16	4 4
	30	6 17	6 4	5 50	5 35	5 26	5 16	5 4	4 50	4 43	4 36	4 27	4 18	4 7
	31	6 17	6 4	5 51	5 36	5 27	5 17	5 5	4 51	4 45	4 38	4 29	4 20	4 10
Feb.	1	6 17	6 5	5 52	5 37	5 28	5 18	5 7	4 53	4 47	4 40	4 32	4 23	4 12
	2	6 17	6 5	5 52	5 38	5 29	5 20	5 8	4 55	4 48	4 42	4 34	4 25	4 15
	3	6 18	6 6	5 53	5 38	5 30	5 21	5 10	4 56	4 50	4 44	4 36	4 27	4 18
	4	6 18	6 6	5 53	5 39	5 31	5 22	5 11	4 58	4 52	4 46	4 38	4 30	4 20
	5	6 18	6 6	5 54	5 40	5 32	5 23	5 12	5 0	4 54	4 48	4 40	4 32	4 23
	6	6 18	6 6	5 54	5 41	5 33	5 24	5 14	5 2	4 56	4 50	4 42	4 34	4 26
	7	6 18	6 7	5 55	5 42	5 34	5 26	5 15	5 3	4 58	4 52	4 45	4 37	4 28
	8	6 18	6 7	5 56	5 42	5 35	5 27	5 17	5 5	5 0	4 54	4 47	4 39	4 31
	9	6 18	6 7	5 56	5 43	5 36	5 28	5 18	5 7	5 2	4 56	4 49	4 42	4 33
	10	6 18	6 8	5 56	5 44	5 37	5 29	5 20	5 8	5 3	4 58	4 51	4 44	4 36
	11	6 18	6 8	5 57	5 45	5 38	5 30	5 21	5 10	5 5	5 0	4 53	4 46	4 39
	12	6 18	6 8	5 58	5 46	5 39	5 32	5 23	5 12	5 7	5 2	4 56	4 49	4 41
	13	6 18	6 8	5 58	5 46	5 40	5 33	5 24	5 14	5 9	5 4	4 58	4 51	4 44
	14	6 18	6 8	5 59	5 47	5 41	5 34	5 25	5 16	5 11	5 6	5 0	4 54	4 47
	15	6 18	6 9	5 59	5 48	5 42	5 35	5 27	5 17	5 13	5 8	5 2	4 56	4 49
	16	6 18	6 9	6 0	5 49	5 43	5 36	5 28	5 19	5 14	5 10	5 4	4 58	4 52

TABLE IV.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 11	19 15	19 20	19 25	19 31	19 38
16	18 11	18 19	18 29	18 39	18 45	18 52	18 59	19 9	19 13	19 18	19 23	19 29	19 35
17	18 11	18 19	18 28	18 38	18 44	18 50	18 58	19 7	19 11	19 16	19 21	19 26	19 32
18	18 11	18 19	18 27	18 37	18 43	18 49	18 56	19 5	19 9	19 13	19 18	19 24	19 30
19	18 10	18 18	18 27	18 36	18 42	18 48	18 55	19 3	19 7	19 11	19 16	19 21	19 27
20	18 10	18 18	18 26	18 35	18 40	18 46	18 53	19 1	19 5	19 9	19 14	19 19	19 24
21	18 10	18 18	18 25	18 34	18 39	18 45	18 51	18 59	19 3	19 7	19 11	19 16	19 21
22	18 10	18 17	18 25	18 33	18 38	18 44	18 50	18 57	19 1	19 4	19 9	19 13	19 18
23	18 10	18 17	18 24	18 32	18 37	18 42	18 48	18 55	18 59	19 2	19 6	19 11	19 16
24	18 10	18 16	18 24	18 31	18 36	18 41	18 46	18 53	18 56	19 0	19 4	19 8	19 13
25	18 10	18 16	18 23	18 30	18 34	18 39	18 45	18 51	18 54	18 58	19 1	19 6	19 10
26	18 10	18 16	18 22	18 29	18 33	18 38	18 43	18 49	18 52	18 55	18 59	19 3	19. 7
27	18 9	18 15	18 21	18 28	18 32	18 36	18 41	18 47	18 50	18 53	18 56	19 0	19 4
28	18 9	18 15	18 21	18 27	18 31	18 35	18 40	18 45	18 48	18 51	18 54	18 57	19 1
Mar. 1	18 9	18 14	18 20	18 26	18 29	18 33	18 38	18 43	18 46	18 48	18 51	18 55	18 58
2	18 9	18 14	18 19	18 25	18 28	18 32	18 36	18 41	18 43	18 46	18 49	18 52	18 55
3	18 9	18 13	18 18	18 24	18 27	18 30	18 34	18 39	18 41	18 44	18 46	18 49	18 52
4	18 8	18 13	18 18	18 23	18 26	18 29	18 33	18 37	18 39	18 41	18 44	18 46	18 49
5	18 8	18 12	18 17	18 22	18 24	18 27	18 31	18 35	18 37	18 39	18 41	18 44	18 46
6	18 8	18 12	18 16	18 20	18 23	18 26	18 29	18 33	18 34	18 36	18 39	18 41	18 44
7	18 8	18 11	18 15	18 19	18 22	18 24	18 27	18 31	18 32	18 34	18 36	18 38	18 40
8	18 8	18 11	18 14	18 18	18 20	18 23	18 25	18 29	18 30	18 32	18 33	18 35	18 38
9	18 7	18 10	18 14	18 17	18 19	18 21	18 24	18 26	18 28	18 29	18 31	18 33	18 35
10	18 7	18 10	18 13	18 16	18 17	18 20	18 22	18 24	18 25	18 27	18 28	18 30	18 32
11	18 7	18 9	18 12	18 15	18 16	18 18	18 20	18 22	18 23	18 24	18 26	18 27	18 29
12	18 6	18 9	18 11	18 14	18 15	18 16	18 18	18 20	18 21	18 22	18 23	18 24	18 26
13	18 6	18 8	18 10	18 12	18 13	18 15	18 16	18 18	18 19	18 20	18 20	18 21	18 23
14	18 6	18 8	18 9	18 11	18 12	18 13	18 14	18 16	18 16	18 17	18 18	18 19	18 20
15	18 6	18 7	18 8	18 10	18 11	18 12	18 12	18 14	18 14	18 15	18 15	18 16	18 17
16	18 5	18 6	18 8	18 9	18 9	18 10	18 11	18 12	18 12	18 12	18 13	18 13	18 14
17	18 5	18 6	18 7	18 8	18 8	18 8	18 9	18 9	18 9	18 10	18 10	18 10	18 10
18	18 5	18 5	18 6	18 6	18 6	18 7	18 7	18 7	18 7	18 7	18 7	18 7	18 8
19	18 4	18 5	18 5	18 5	18 5	18 5	18 5	18 5	18 5	18 5	18 5	18 4	18 4
20	18 4	18 4	18 4	18 4	18 4	18 4	18 3	18 3	18 2	18 2	18 2	18 2	18 2
21	18 4	18 4	18 3	18 3	18 2	18 2	18 1	18 1	18 0	18 0	17 59	17 59	17 58
22	18 4	18 3	18 2	18 1	18 1	18 0	17 59	17 58	17 58	17 57	17 57	17 56	17 55
23	18 3	18 2	18 2	18 0	18 0	17 59	17 58	17 56	17 56	17 55	17 54	17 53	17 52
24	18 3	18 2	18 1	17 59	17 58	17 57	17 56	17 54	17 53	17 52	17 52	17 50	17 49
25	18 3	18 1	18 0	17 58	17 57	17 55	17 54	17 52	17 51	17 50	17 49	17 48	17 46
26	18 2	18 1	17 59	17 56	17 55	17 54	17 52	17 50	17 48	17 47	17 46	17 45	17 43
27	18 2	18 0	17 58	17 55	17 54	17 52	17 50	17 47	17 46	17 45	17 43	17 42	17 40
28	18 2	18 0	17 57	17 54	17 52	17 50	17 48	17 45	17 44	17 42	17 41	17 39	17 37
29	18 1	17 59	17 56	17 53	17 51	17 49	17 46	17 43	17 42	17 40	17 38	17 36	17 34
30	18 1	17 58	17 55	17 52	17 50	17 47	17 44	17 41	17 39	17 38	17 36	17 33	17 31
31	18 1	17 58	17 54	17 50	17 48	17 46	17 42	17 39	17 37	17 35	17 33	17 31	17 28
Apr. 1	18 0	17 57	17 54	17 49	17 47	17 44	17 41	17 37	17 35	17 33	17 30	17 28	17 25
2	18 0	17 57	17 53	17 48	17 45	17 42	17 39	17 34	17 32	17 30	17 28	17 25	17 22

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 16	6 18	6 9	6 0	5 49	5 43	5 36	5 28	5 19	5 14	5 10	5 4	4 58	4 52
17	6 18	6 9	6 0	5 50	5 44	5 37	5 30	5 21	5 16	5 12	5 7	5 1	4 54
18	6 18	6 9	6 0	5 50	5 45	5 38	5 31	5 22	5 18	5 14	5 9	5 3	4 57
19	6 17	6 9	6 1	5 51	5 46	5 40	5 32	5 24	5 20	5 16	5 11	5 6	5 0
20	6 17	6 10	6 1	5 52	5 47	5 41	5 34	5 26	5 22	5 18	5 13	5 8	5 2
21	6 17	6 10	6 2	5 53	5 48	5 42	5 35	5 28	5 24	5 20	5 15	5 10	5 5
22	6 17	6 10	6 2	5 54	5 49	5 43	5 37	5 29	5 26	5 22	5 18	5 13	5 8
23	6 17	6 10	6 3	5 54	5 50	5 44	5 38	5 31	5 27	5 24	5 20	5 15	5 10
24	6 17	6 10	6 3	5 55	5 50	5 45	5 39	5 32	5 29	5 26	5 22	5 17	5 12
25	6 17	6 10	6 3	5 56	5 51	5 47	5 41	5 34	5 31	5 28	5 24	5 20	5 15
26	6 16	6 10	6 4	5 56	5 52	5 48	5 42	5 36	5 33	5 30	5 26	5 22	5 18
27	6 16	6 10	6 4	5 57	5 53	5 49	5 44	5 38	5 35	5 32	5 28	5 24	5 20
28	6 16	6 10	6 4	5 58	5 54	5 50	5 45	5 39	5 36	5 34	5 30	5 27	5 23
Mar. 1	6 16	6 10	6 5	5 59	5 55	5 51	5 46	5 41	5 38	5 36	5 32	5 29	5 25
2	6 16	6 10	6 5	5 59	5 56	5 52	5 48	5 42	5 40	5 38	5 35	5 31	5 28
3	6 15	6 10	6 6	6 0	5 57	5 53	5 49	5 44	5 42	5 39	5 37	5 34	5 30
4	6 15	6 11	6 6	6 1	5 58	5 54	5 50	5 46	5 44	5 41	5 39	5 36	5 33
5	6 15	6 11	6 6	6 1	5 58	5 55	5 52	5 47	5 45	5 43	5 41	5 38	5 35
6	6 15	6 11	6 7	6 2	5 59	5 56	5 53	5 49	5 47	5 45	5 43	5 41	5 38
7	6 15	6 11	6 7	6 3	6 0	5 58	5 54	5 51	5 49	5 47	5 45	5 43	5 40
8	6 14	6 11	6 7	6 3	6 1	5 58	5 56	5 52	5 51	5 49	5 47	5 45	5 43
9	6 14	6 11	6 8	6 4	6 2	6 0	5 57	5 54	5 52	5 51	5 49	5 47	5 46
10	6 14	6 11	6 8	6 5	6 3	6 1	5 58	5 56	5 54	5 53	5 51	5 50	5 48
11	6 14	6 11	6 8	6 5	6 4	6 2	6 0	5 57	5 56	5 55	5 54	5 52	5 50
12	6 13	6 11	6 9	6 6	6 4	6 3	6 1	5 59	5 58	5 57	5 56	5 54	5 53
13	6 13	6 11	6 9	6 6	6 5	6 4	6 2	6 0	6 0	5 59	5 58	5 57	5 55
14	6 13	6 11	6 9	6 7	6 6	6 5	6 4	6 2	6 1	6 0	5 59	5 58	5 58
15	6 12	6 11	6 10	6 8	6 7	6 6	6 5	6 4	6 3	6 2	6 2	6 1	6 0
16	6 12	6 11	6 10	6 8	6 8	6 7	6 6	6 5	6 5	6 4	6 4	6 3	6 3
17	6 12	6 11	6 10	6 9	6 9	6 8	6 8	6 7	6 7	6 6	6 6	6 6	6 5
18	6 12	6 11	6 10	6 10	6 9	6 9	6 9	6 8	6 8	6 8	6 8	6 8	6 8
19	6 11	6 11	6 11	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10
20	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 12	6 12
21	6 11	6 11	6 11	6 12	6 12	6 12	6 13	6 13	6 14	6 14	6 14	6 14	6 15
22	6 10	6 11	6 12	6 12	6 13	6 13	6 14	6 15	6 15	6 16	6 16	6 17	6 17
23	6 10	6 11	6 12	6 13	6 13	6 14	6 15	6 16	6 17	6 18	6 18	6 19	6 20
24	6 10	6 11	6 12	6 13	6 14	6 15	6 16	6 18	6 19	6 19	6 20	6 21	6 22
25	6 10	6 11	6 12	6 14	6 15	6 16	6 18	6 20	6 20	6 21	6 22	6 23	6 25
26	6 9	6 11	6 12	6 15	6 16	6 17	6 19	6 21	6 22	6 23	6 24	6 26	6 27
27	6 9	6 11	6 13	6 16	6 17	6 18	6 20	6 23	6 24	6 25	6 26	6 28	6 29
28	6 9	6 11	6 13	6 16	6 17	6 19	6 22	6 24	6 25	6 27	6 28	6 30	6 32
29	6 8	6 11	6 13	6 16	6 18	6 20	6 23	6 26	6 27	6 29	6 30	6 32	6 34
30	6 8	6 11	6 14	6 17	6 19	6 21	6 24	6 27	6 29	6 31	6 32	6 34	6 37
31	6 8	6 10	6 14	6 18	6 20	6 22	6 25	6 29	6 30	6 32	6 34	6 37	6 39
Apr. 1	6 7	6 10	6 14	6 18	6 20	6 23	6 26	6 30	6 32	6 34	6 36	6 39	6 42
2	6 7	6 10	6 14	6 19	6 21	6 24	6 28	6 32	6 34	6 36	6 39	6 41	6 44
3	6 7	6 10	6 15	6 19	6 22	6 25	6 29	6 34	6 36	6 38	6 41	6 43	6 46

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.		0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	1	18 0	17 57	17 54	17 49	17 47	17 44	17 41	17 37	17 35	17 33	17 30	17 28	17 25
	2	18 0	17 57	17 53	17 48	17 45	17 42	17 39	17 34	17 32	17 30	17 28	17 25	17 22
	3	18 0	17 56	17 52	17 47	17 44	17 41	17 37	17 32	17 30	17 28	17 25	17 22	17 19
	4	18 0	17 55	17 51	17 46	17 43	17 39	17 35	17 30	17 28	17 25	17 22	17 19	17 16
	5	17 59	17 55	17 50	17 44	17 41	17 38	17 33	17 28	17 26	17 23	17 20	17 17	17 13
	6	17 59	17 54	17 49	17 44	17 40	17 36	17 31	17 26	17 23	17 20	17 17	17 14	17 10
	7	17 59	17 54	17 48	17 42	17 39	17 34	17 29	17 24	17 21	17 18	17 15	17 11	17 7
	8	17 58	17 53	17 48	17 41	17 37	17 33	17 28	17 22	17 19	17 16	17 12	17 8	17 4
	9	17 58	17 53	17 47	17 40	17 36	17 31	17 26	17 20	17 16	17 13	17 10	17 5	17 2
	10	17 58	17 52	17 46	17 39	17 34	17 30	17 24	17 17	17 14	17 11	17 7	17 3	16 58
	11	17 58	17 52	17 45	17 38	17 33	17 28	17 22	17 15	17 12	17 8	17 4	17 0	16 55
	12	17 57	17 51	17 44	17 36	17 32	17 27	17 20	17 13	17 10	17 6	17 2	16 57	16 52
	13	17 57	17 50	17 44	17 35	17 30	17 25	17 19	17 11	17 7	17 4	16 59	16 54	16 49
	14	17 57	17 50	17 43	17 34	17 29	17 24	17 17	17 9	17 5	17 1	16 57	16 52	16 46
	15	17 57	17 50	17 42	17 33	17 28	17 22	17 15	17 7	17 3	16 59	16 54	16 49	16 43
	16	17 56	17 49	17 41	17 32	17 27	17 21	17 13	17 5	17 1	16 57	16 52	16 47	16 40
	17	17 56	17 49	17 40	17 31	17 25	17 19	17 12	17 3	16 59	16 54	16 49	16 44	16 37
	18	17 56	17 48	17 40	17 30	17 24	17 18	17 10	17 1	16 56	16 52	16 47	16 41	16 34
	19	17 56	17 48	17 39	17 29	17 23	17 16	17 8	16 59	16 54	16 50	16 44	16 38	16 31
	20	17 55	17 47	17 38	17 28	17 22	17 15	17 7	16 57	16 52	16 47	16 42	16 36	16 28
	21	17 55	17 47	17 37	17 27	17 20	17 13	17 5	16 55	16 50	16 45	16 39	16 33	16 25
	22	17 55	17 46	17 37	17 26	17 19	17 12	17 3	16 53	16 48	16 43	16 37	16 30	16 22
	23	17 55	17 46	17 36	17 25	17 18	17 10	17 2	16 51	16 46	16 40	16 34	16 28	16 20
	24	17 55	17 45	17 35	17 24	17 17	17 9	17 0	16 49	16 44	16 38	16 32	16 25	16 17
	25	17 54	17 45	17 34	17 23	17 16	17 8	16 58	16 47	16 42	16 36	16 30	16 22	16 14
	26	17 54	17 44	17 34	17 22	17 14	17 6	16 57	16 45	16 40	16 34	16 27	16 20	16 11
	27	17 54	17 44	17 33	17 21	17 13	17 5	16 55	16 44	16 38	16 32	16 25	16 17	16 8
	28	17 54	17 44	17 33	17 20	17 12	17 4	16 54	16 42	16 36	16 30	16 22	16 15	16 6
	29	17 54	17 43	17 32	17 19	17 11	17 2	16 52	16 40	16 34	16 27	16 20	16 12	16 3
	30	17 54	17 43	17 31	17 18	17 10	17 1	16 51	16 38	16 32	16 25	16 18	16 10	16 0
May	1	17 54	17 43	17 31	17 17	17 9	17 0	16 49	16 36	16 30	16 23	16 16	16 7	15 57
	2	17 53	17 42	17 30	17 16	17 8	16 59	16 48	16 34	16 28	16 21	16 13	16 5	15 55
	3	17 53	17 42	17 30	17 15	17 7	16 57	16 46	16 33	16 26	16 19	16 11	16 2	15 52
	4	17 53	17 42	17 29	17 14	17 6	16 56	16 45	16 31	16 24	16 17	16 9	16 0	15 49
	5	17 53	17 41	17 28	17 14	17 5	16 55	16 43	16 29	16 22	16 15	16 7	15 58	15 47
	6	17 53	17 41	17 28	17 13	17 4	16 54	16 42	16 28	16 21	16 13	16 5	15 55	15 44
	7	17 53	17 41	17 27	17 12	17 3	16 53	16 41	16 26	16 19	16 11	16 3	15 53	15 41
	8	17 53	17 40	17 27	17 11	17 2	16 52	16 39	16 24	16 17	16 9	16 0	15 50	15 39
	9	17 53	17 40	17 26	17 10	17 1	16 51	16 38	16 23	16 16	16 7	15 58	15 48	15 36
	10	17 53	17 40	17 26	17 10	17 0	16 50	16 37	16 21	16 14	16 6	15 56	15 46	15 34
	11	17 53	17 40	17 25	17 9	16 59	16 48	16 36	16 20	16 12	16 4	15 54	15 44	15 31
	12	17 53	17 39	17 25	17 8	16 58	16 48	16 34	16 18	16 10	16 2	15 52	15 42	15 29
	13	17 53	17 39	17 25	17 8	16 58	16 46	16 33	16 17	16 9	16 0	15 51	15 39	15 26
	14	17 53	17 39	17 24	17 7	16 57	16 46	16 32	16 15	16 7	15 58	15 49	15 37	15 24
	15	17 53	17 39	17 24	17 6	16 56	16 44	16 31	16 14	16 6	15 57	15 47	15 35	15 22
	16	17 53	17 39	17 23	17 6	16 56	16 44	16 30	16 12	16 4	15 55	15 45	15 33	15 20
	17	17 53	17 38	17 23	17 5	16 55	16 43	16 29	16 11	16 3	15 54	15 43	15 31	15 17

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr. 2	6 7	6 10	6 14	6 19	6 21	6 24	6 28	6 32	6 34	6 36	6 39	6 41	6 44
3	6 7	6 10	6 15	6 19	6 22	6 25	6 29	6 34	6 36	6 38	6 41	6 43	6 46
4	6 7	6 10	6 15	6 20	6 23	6 26	6 30	6 35	6 37	6 40	6 43	6 46	6 49
5	6 6	6 10	6 15	6 21	6 24	6 27	6 32	6 37	6 39	6 42	6 45	6 48	6 51
6	6 6	6 10	6 15	6 21	6 24	6 28	6 33	6 38	6 41	6 44	6 47	6 50	6 54
7	6 6	6 10	6 16	6 22	6 25	6 29	6 34	6 40	6 42	6 46	6 49	6 52	6 56
8	6 5	6 10	6 16	6 22	6 26	6 30	6 35	6 41	6 44	6 47	6 51	6 54	6 59
9	6 5	6 10	6 16	6 23	6 27	6 31	6 37	6 43	6 46	6 49	6 53	6 57	7 1
10	6 5	6 10	6 16	6 24	6 28	6 32	6 38	6 45	6 48	6 51	6 55	6 59	7 4
11	6 5	6 10	6 17	6 24	6 28	6 33	6 39	6 46	6 49	6 53	6 57	7 1	7 6
12	6 4	6 10	6 17	6 25	6 29	6 34	6 40	6 48	6 51	6 55	6 59	7 3	7 8
13	6 4	6 10	6 17	6 25	6 30	6 35	6 42	6 49	6 53	6 56	7 1	7 6	7 11
14	6 4	6 10	6 18	6 26	6 31	6 36	6 43	6 51	6 54	6 58	7 3	7 8	7 13
15	6 4	6 10	6 18	6 27	6 32	6 38	6 44	6 52	6 56	7 0	7 5	7 10	7 16
16	6 3	6 10	6 18	6 27	6 32	6 38	6 46	6 54	6 58	7 2	7 7	7 12	7 18
17	6 3	6 10	6 19	6 28	6 33	6 40	6 47	6 56	7 0	7 4	7 9	7 14	7 21
18	6 3	6 10	6 19	6 28	6 34	6 40	6 48	6 57	7 1	7 6	7 11	7 17	7 23
19	6 3	6 10	6 19	6 29	6 35	6 42	6 49	6 59	7 3	7 8	7 13	7 19	7 26
20	6 2	6 11	6 20	6 30	6 36	6 42	6 50	7 0	7 5	7 10	7 15	7 21	7 28
21	6 2	6 11	6 20	6 30	6 36	6 44	6 52	7 2	7 6	7 11	7 17	7 23	7 31
22	6 2	6 11	6 20	6 31	6 37	6 44	6 53	7 3	7 8	7 13	7 19	7 26	7 33
23	6 2	6 11	6 20	6 32	6 38	6 46	6 54	7 5	7 10	7 15	7 21	7 28	7 36
24	6 2	6 11	6 21	6 32	6 39	6 46	6 56	7 6	7 11	7 17	7 23	7 30	7 38
25	6 2	6 11	6 21	6 33	6 40	6 48	6 57	7 8	7 13	7 19	7 25	7 32	7 40
26	6 1	6 11	6 21	6 34	6 40	6 49	6 58	7 10	7 15	7 21	7 27	7 35	7 43
27	6 1	6 11	6 22	6 34	6 41	6 50	6 59	7 11	7 16	7 23	7 29	7 37	7 45
28	6 1	6 11	6 22	6 35	6 42	6 51	7 1	7 13	7 18	7 24	7 31	7 39	7 48
29	6 1	6 11	6 22	6 35	6 43	6 52	7 2	7 14	7 20	7 26	7 33	7 41	7 50
30	6 1	6 11	6 23	6 36	6 44	6 53	7 3	7 16	7 22	7 28	7 35	7 44	7 53
May 1	6 1	6 11	6 23	6 37	6 45	6 54	7 4	7 17	7 23	7 30	7 37	7 46	7 55
2	6 0	6 12	6 23	6 37	6 45	6 55	7 6	7 19	7 25	7 32	7 39	7 48	7 58
3	6 0	6 12	6 24	6 38	6 46	6 56	7 7	7 20	7 26	7 34	7 41	7 50	8 0
4	6 0	6 12	6 24	6 39	6 47	6 57	7 8	7 22	7 28	7 36	7 44	7 52	8 3
5	6 0	6 12	6 25	6 39	6 48	6 58	7 9	7 23	7 30	7 37	7 45	7 55	8 5
6	6 0	6 12	6 25	6 40	6 49	6 59	7 10	7 25	7 32	7 39	7 48	7 57	8 8
7	6 0	6 12	6 25	6 41	6 50	7 0	7 12	7 26	7 33	7 41	7 49	7 59	8 10
8	6 0	6 12	6 26	6 41	6 50	7 1	7 13	7 28	7 35	7 43	7 51	8 1	8 13
9	6 0	6 12	6 26	6 42	6 51	7 2	7 14	7 29	7 36	7 44	7 53	8 3	8 15
10	6 0	6 13	6 27	6 43	6 52	7 3	7 15	7 31	7 38	7 46	7 55	8 6	8 18
11	6 0	6 13	6 27	6 43	6 53	7 4	7 16	7 32	7 40	7 48	7 57	8 8	8 20
12	6 0	6 13	6 27	6 44	6 54	7 4	7 18	7 34	7 41	7 50	7 59	8 10	8 22
13	6 0	6 13	6 28	6 44	6 54	7 6	7 19	7 35	7 43	7 51	8 1	8 12	8 25
14	6 0	6 13	6 28	6 45	6 55	7 6	7 20	7 37	7 44	7 53	8 3	8 14	8 27
15	6 0	6 14	6 28	6 46	6 56	7 8	7 21	7 38	7 46	7 55	8 5	8 16	8 30
16	6 0	6 14	6 29	6 46	6 57	7 8	7 22	7 39	7 48	7 56	8 7	8 18	8 32
17	6 0	6 14	6 29	6 47	6 57	7 9	7 24	7 41	7 49	7 58	8 8	8 20	8 34
18	6 0	6 14	6 30	6 48	6 58	7 10	7 25	7 42	7 51	8 0	8 10	8 22	8 37

70331°—1917——4

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May 17	17 53	17 38	17 23	17 5	16 55	16 43	16 29	16 11	16 3	15 54	15 43	15 31	15 17
18	17 53	17 38	17 23	17 5	16 54	16 42	16 28	16 10	16 1	15 52	15 42	15 29	15 15
19	17 53	17 38	17 22	17 4	16 53	16 41	16 26	16 9	16 0	15 50	15 40	15 27	15 12
20	17 53	17 38	17 22	17 4	16 53	16 40	16 26	16 7	15 59	15 49	15 38	15 25	15 11
21	17 53	17 38	17 22	17 3	16 52	16 40	16 25	16 6	15 57	15 48	15 36	15 24	15 8
22	17 53	17 38	17 22	17 2	16 52	16 39	16 24	16 5	15 56	15 46	15 35	15 22	15 6
23	17 53	17 38	17 21	17 2	16 51	16 38	16 23	16 4	15 55	15 45	15 33	15 20	15 4
24	17 53	17 38	17 21	17 2	16 50	16 37	16 22	16 3	15 54	15 44	15 32	15 18	15 2
25	17 53	17 38	17 21	17 1	16 50	16 37	16 21	16 2	15 52	15 42	15 30	15 17	15 0
26	17 53	17 38	17 21	17 1	16 49	16 36	16 20	16 1	15 51	15 41	15 29	15 15	14 59
27	17 53	17 38	17 20	17 0	16 49	16 36	16 20	16 0	15 50	15 40	15 28	15 14	14 57
28	17 53	17 37	17 20	17 0	16 48	16 35	16 19	15 59	15 49	15 38	15 26	15 12	14 55
29	17 54	17 37	17 20	17 0	16 48	16 34	16 18	15 58	15 48	15 38	15 25	15 10	14 53
30	17 54	17 38	17 20	17 0	16 48	16 34	16 17	15 57	15 47	15 36	15 24	15 9	14 52
31	17 54	17 38	17 20	16 59	16 47	16 33	16 17	15 56	15 46	15 35	15 22	15 8	14 50
June 1	17 54	17 38	17 20	16 59	16 47	16 33	16 16	15 56	15 46	15 34	15 22	15 7	14 49
2	17 54	17 38	17 20	16 59	16 47	16 33	16 16	15 55	15 45	15 33	15 20	15 5	14 47
3	17 54	17 38	17 20	16 59	16 46	16 32	16 15	15 54	15 44	15 33	15 20	15 4	14 46
4	17 54	17 38	17 20	16 58	16 46	16 32	16 15	15 54	15 43	15 32	15 19	15 3	14 45
5	17 55	17 38	17 20	16 58	16 46	16 32	16 14	15 53	15 43	15 31	15 18	15 2	14 44
6	17 55	17 38	17 20	16 58	16 46	16 31	16 14	15 52	15 42	15 30	15 17	15 1	14 42
7	17 55	17 38	17 20	16 58	16 46	16 31	16 14	15 52	15 42	15 30	15 16	15 0	14 41
8	17 55	17 38	17 20	16 58	16 46	16 31	16 13	15 52	15 41	15 29	15 16	15 0	14 40
9	17 56	17 38	17 20	16 58	16 45	16 31	16 13	15 51	15 41	15 29	15 15	14 59	14 39
10	17 56	17 38	17 20	16 58	16 45	16 30	16 13	15 51	15 40	15 28	15 14	14 58	14 38
11	17 56	17 38	17 20	16 58	16 45	16 30	16 13	15 51	15 40	15 28	15 14	14 58	14 38
12	17 56	17 39	17 20	16 58	16 45	16 30	16 13	15 50	15 40	15 28	15 14	14 57	14 37
13	17 56	17 39	17 20	16 58	16 45	16 30	16 13	15 50	15 40	15 27	15 13	14 57	14 37
14	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14 36
15	17 57	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14 36
16	17 57	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14 35
17	17 57	17 40	17 20	16 59	16 45	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14 35
18	17 57	17 40	17 21	16 59	16 46	16 30	16 13	15 50	15 39	15 27	15 12	14 56	14 35
19	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 13	14 56	14 35
20	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 13	14 56	14 35
21	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 13	14 56	14 35
22	17 58	17 41	17 22	17 0	16 46	16 31	16 13	15 51	15 40	15 27	15 13	14 56	14 36
23	17 58	17 41	17 22	17 0	16 47	16 32	16 14	15 51	15 40	15 28	15 13	14 56	14 36
24	17 59	17 41	17 22	17 0	16 47	16 32	16 14	15 51	15 40	15 28	15 14	14 57	14 36
25	17 59	17 41	17 22	17 0	16 47	16 32	16 14	15 52	15 41	15 28	15 14	14 57	14 37
26	17 59	17 42	17 23	17 0	16 48	16 33	16 15	15 52	15 41	15 29	15 15	14 58	14 38
27	17 59	17 42	17 23	17 1	16 48	16 33	16 15	15 52	15 42	15 29	15 15	14 59	14 38
28	17 59	17 42	17 23	17 1	16 48	16 33	16 15	15 53	15 42	15 30	15 16	14 59	14 39
29	18 0	17 42	17 23	17 2	16 49	16 34	16 16	15 54	15 43	15 31	15 17	15 0	14 40
30	18 0	17 42	17 24	17 2	16 49	16 34	16 16	15 54	15 43	15 31	15 17	15 1	14 41
July 1	18 0	17 43	17 24	17 2	16 49	16 35	16 17	15 55	15 44	15 32	15 18	15 2	14 42
2	18 0	17 43	17 24	17 3	16 50	16 35	16 18	15 55	15 45	15 33	15 19	15 3	14 43

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May 18	6 0	6 14	6 30	6 48	6 58	7 10	7 25	7 42	7 51	8 0	8 10	8 22	8 37
19	6 0	6 14	6 30	6 48	6 59	7 11	7 26	7 44	7 52	8 1	8 12	8 24	8 39
20	6 0	6 15	6 30	6 49	7 0	7 12	7 27	7 54	7 54	8 3	8 14	8 26	8 41
21	6 0	6 15	6 31	6 50	7 0	7 13	7 28	7 46	7 55	8 5	8 16	8 28	8 43
22	6 0	6 15	6 31	6 50	7 1	7 14	7 29	7 47	7 56	8 6	8 17	8 30	8 46
23	6 0	6 15	6 32	6 51	7 2	7 15	7 30	7 49	7 58	8 8	8 19	8 32	8 48
24	6 0	6 16	6 32	6 51	7 3	7 16	7 31	7 50	7 59	8 9	8 21	8 34	8 50
25	6 0	6 16	6 32	6 52	7 3	7 16	7 32	7 51	8 0	8 11	8 22	8 36	8 52
26	6 0	6 16	6 33	6 52	7 4	7 17	7 33	7 52	8 2	8 12	8 24	8 38	8 54
27	6 0	6 16	6 33	6 53	7 5	7 18	7 34	7 54	8 3	8 14	8 26	8 40	8 56
28	6 1	6 17	6 34	6 54	7 5	7 19	7 35	7 55	8 4	8 15	8 27	8 42	8 58
29	6 1	6 17	6 34	6 54	7 6	7 20	7 36	7 56	8 6	8 16	8 29	8 43	9 0
30	6 1	6 17	6 35	6 55	7 7	7 20	7 37	7 57	8 7	8 18	8 30	8 45	9 2
31	6 1	6 17	6 35	6 55	7 7	7 21	7 38	7 58	8 8	8 19	8 32	8 46	9 4
June 1	6 1	6 18	6 35	6 56	7 8	7 22	7 38	7 59	8 9	8 20	8 33	8 48	9 6
2	6 1	6 18	6 36	6 56	7 8	7 23	7 39	8 0	8 10	8 21	8 34	8 49	9 8
3	6 2	6 18	6 36	6 57	7 9	7 23	7 40	8 1	8 11	8 23	8 36	8 51	9 9
4	6 2	6 18	6 36	6 58	7 10	7 24	7 41	8 2	8 12	8 24	8 37	8 52	9 11
5	6 2	6 19	6 37	6 58	7 10	7 25	7 42	8 3	8 13	8 25	8 38	8 54	9 12
6	6 2	6 19	6 37	6 58	7 11	7 25	7 42	8 4	8 14	8 26	8 39	8 55	9 14
7	6 2	6 19	6 38	6 59	7 11	7 26	7 43	8 5	8 15	8 27	8 40	8 56	9 15
8	6 2	6 20	6 38	6 59	7 12	7 27	7 44	8 6	8 16	8 28	8 42	8 58	9 17
9	6 3	6 20	6 38	7 0	7 12	7 27	7 45	8 6	8 17	8 29	8 43	8 59	9 18
10	6 3	6 20	6 39	7 0	7 13	7 28	7 45	8 7	8 18	8 30	8 44	9 0	9 19
11	6 3	6 20	6 39	7 1	7 13	7 28	7 46	8 8	8 19	8 30	8 44	9 1	9 20
12	6 3	6 20	6 39	7 1	7 14	7 29	7 46	8 9	8 19	8 31	8 45	9 2	9 22
13	6 3	6 21	6 40	7 1	7 14	7 29	7 47	8 9	8 20	8 32	8 46	9 3	9 23
14	6 4	6 21	6 40	7 2	7 15	7 30	7 47	8 10	8 21	8 33	8 47	9 4	9 24
15	6 4	6 21	6 40	7 2	7 15	7 30	7 48	8 10	8 21	8 33	8 48	9 4	9 24
16	6 4	6 22	6 40	7 2	7 16	7 30	7 48	8 11	8 22	8 34	8 48	9 5	9 25
17	6 4	6 22	6 41	7 3	7 16	7 31	7 49	8 11	8 22	8 34	8 49	9 6	9 26
18	6 4	6 22	6 41	7 3	7 16	7 31	7 49	8 12	8 23	8 35	8 49	9 6	9 26
19	6 5	6 22	6 41	7 3	7 16	7 32	7 50	8 12	8 23	8 35	8 50	9 6	9 27
20	6 5	6 22	6 41	7 4	7 17	7 32	7 50	8 12	8 23	8 36	8 50	9 7	9 27
21	6 5	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 50	9 7	9 28
22	6 5	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 50	9 7	9 28
23	6 6	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 51	9 7	9 28
24	6 6	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 51	9 7	9 28
25	6 6	6 24	6 42	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 51	9 8	9 28
26	6 6	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 51	9 7	9 28
27	6 6	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 50	9 7	9 28
28	6 7	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 50	9 7	9 27
29	6 7	6 24	6 43	7 5	7 18	7 33	7 50	8 13	8 24	8 36	8 50	9 7	9 27
30	6 7	6 24	6 43	7 5	7 18	7 33	7 50	8 13	8 24	8 36	8 50	9 6	9 26
July 1	6 7	6 25	6 43	7 5	7 18	7 33	7 50	8 13	8 23	8 35	8 49	9 6	9 26
2	6 7	6 25	6 43	7 5	7 18	7 33	7 50	8 12	8 23	8 35	8 49	9 5	9 25
3	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 24

TABLE IV.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July 1	18 0	17 43	17 24	17 2	16 49	16 35	16 17	15 55	15 44	15 32	15 18	15 2	14 42
2	18 0	17 43	17 24	17 3	16 50	16 35	16 18	15 55	15 45	15 33	15 19	15 3	14 43
3	18 0	17 43	17 25	17 3	16 50	16 36	16 18	15 56	15 46	15 34	15 20	15 4	14 44
4	18 0	17 43	17 25	17 3	16 51	16 36	16 19	15 57	15 46	15 34	15 21	15 5	14 45
5	18 1	17 44	17 25	17 4	16 51	16 37	16 19	15 58	15 47	15 36	15 22	15 6	14 47
6	18 1	17 44	17 26	17 4	16 52	16 37	16 20	15 58	15 48	15 36	15 23	15 7	14 48
7	18 1	17 44	17 26	17 5	16 52	16 38	16 21	15 59	15 49	15 38	15 24	15 9	14 50
8	18 1	17 44	17 26	17 5	16 53	16 39	16 22	16 0	15 50	15 38	15 25	15 10	14 51
9	18 1	17 45	17 27	17 6	16 54	16 39	16 22	16 1	15 51	15 40	15 26	15 11	14 53
10	18 2	17 45	17 27	17 6	16 54	16 40	16 23	16 2	15 52	15 41	15 28	15 13	14 54
11	18 2	17 45	17 27	17 7	16 55	16 41	16 24	16 3	15 53	15 42	15 29	15 14	14 56
12	18 2	17 45	17 28	17 7	16 55	16 41	16 25	16 4	15 54	15 43	15 30	15 16	14 58
13	18 2	17 46	17 28	17 8	16 56	16 42	16 26	16 5	15 55	15 44	15 32	15 17	15 0
14	18 2	17 46	17 29	17 8	16 56	16 43	16 26	16 6	15 57	15 46	15 33	15 19	15 2
15	18 2	17 46	17 29	17 9	16 57	16 44	16 27	16 7	15 58	15 47	15 35	15 20	15 4
16	18 2	17 46	17 29	17 10	16 58	16 44	16 28	16 8	15 59	15 48	15 36	15 22	15 5
17	18 2	17 47	17 30	17 10	16 58	16 45	16 29	16 10	16 0	15 50	15 38	15 24	15 7
18	18 2	17 47	17 30	17 11	16 59	16 46	16 30	16 11	16 2	15 51	15 39	15 26	15 9
19	18 2	17 47	17 30	17 11	17 0	16 47	16 31	16 12	16 3	15 53	15 41	15 28	15 12
20	18 3	17 47	17 31	17 12	17 0	16 48	16 32	16 13	16 4	15 54	15 43	15 29	15 14
21	18 3	17 48	17 31	17 12	17 1	16 48	16 33	16 14	16 6	15 56	15 44	15 31	15 16
22	18 3	17 48	17 32	17 13	17 2	16 49	16 34	16 16	16 7	15 57	15 46	15 33	15 18
23	18 3	17 48	17 32	17 13	17 2	16 50	16 35	16 17	16 8	15 59	15 48	15 35	15 20
24	18 3	17 48	17 32	17 14	17 3	16 51	16 36	16 18	16 10	16 0	15 49	15 37	15 22
25	18 3	17 48	17 33	17 15	17 4	16 52	16 37	16 20	16 11	16 2	15 51	15 39	15 24
26	18 3	17 48	17 33	17 15	17 5	16 53	16 38	16 21	16 12	16 3	15 53	15 41	15 27
27	18 3	17 49	17 33	17 16	17 6	16 54	16 40	16 22	16 14	16 5	15 54	15 43	15 29
28	18 3	17 49	17 34	17 16	17 6	16 54	16 41	16 24	16 16	16 7	15 56	15 45	15 31
29	18 3	17 49	17 34	17 17	17 7	16 55	16 42	16 25	16 17	16 8	15 58	15 47	15 34
30	18 3	17 49	17 34	17 18	17 8	16 56	16 43	16 26	16 19	16 10	16 0	15 49	15 36
31	18 3	17 49	17 35	17 18	17 9	16 57	16 44	16 28	16 20	16 12	16 2	15 51	15 38
Aug. 1	18 3	17 50	17 35	17 19	17 9	16 58	16 45	16 29	16 22	16 13	16 4	15 53	15 41
2	18 3	17 50	17 36	17 20	17 10	16 59	16 46	16 31	16 23	16 15	16 6	15 55	15 43
3	18 3	17 50	17 36	17 20	17 11	17 0	16 47	16 32	16 25	16 17	16 7	15 57	15 45
4	18 2	17 50	17 36	17 21	17 11	17 1	16 49	16 33	16 26	16 18	16 9	15 59	15 48
5	18 2	17 50	17 36	17 21	17 12	17 2	16 50	16 35	16 28	16 20	16 11	16 2	15 50
6	18 2	17 50	17 37	17 22	17 13	17 3	16 51	16 36	16 30	16 22	16 13	16 4	15 53
7	18 2	17 50	17 37	17 22	17 14	17 4	16 52	16 38	16 31	16 24	16 15	16 6	15 55
8	18 2	17 50	17 38	17 23	17 14	17 5	16 53	16 39	16 33	16 25	16 17	16 8	15 58
9	18 2	17 50	17 38	17 24	17 15	17 6	16 54	16 41	16 34	16 27	16 19	16 10	16 0
10	18 2	17 50	17 38	17 24	17 16	17 7	16 56	16 42	16 36	16 29	16 21	16 12	16 2
11	18 2	17 51	17 39	17 25	17 17	17 8	16 57	16 44	16 38	16 31	16 23	16 15	16 5
12	18 2	17 51	17 39	17 25	17 18	17 8	16 58	16 45	16 39	16 32	16 25	16 17	16 7
13	18 1	17 51	17 39	17 26	17 18	17 10	16 59	16 46	16 41	16 34	16 27	16 19	16 10
14	18 1	17 51	17 40	17 27	17 19	17 10	17 0	16 48	16 42	16 36	16 29	16 21	16 12
15	18 1	17 51	17 40	17 27	17 20	17 11	17 2	16 50	16 44	16 38	16 31	16 23	16 14
16	18 1	17 51	17 40	17 28	17 21	17 12	17 3	16 51	16 46	16 40	16 33	16 25	16 17

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July 2	6 7	6 25	6 43	7 5	7 18	7 33	7 50	8 12	8 23	8 35	8 49	9 5	9 25
3	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 24
4	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 23
5	6 8	6 25	6 43	7 5	7 18	7 32	7 49	8 12	8 22	8 34	8 47	9 3	9 22
6	6 8	6 25	6 43	7 5	7 17	7 32	7 49	8 11	8 21	8 32	8 46	9 2	9 21
7	6 8	6 25	6 43	7 5	7 17	7 32	7 49	8 10	8 20	8 32	8 46	9 1	9 20
8	6 8	6 25	6 43	7 4	7 17	7 31	7 48	8 10	8 20	8 32	8 45	9 0	9 19
9	6 8	6 25	6 43	7 4	7 17	7 31	7 48	8 9	8 19	8 31	8 44	8 59	9 18
10	6 9	6 25	6 43	7 4	7 16	7 30	7 47	8 8	8 18	8 30	8 43	8 58	9 16
11	6 9	6 25	6 43	7 4	7 16	7 30	7 47	8 8	8 18	8 29	8 42	8 57	9 15
12	6 9	6 25	6 43	7 4	7 16	7 30	7 46	8 7	8 17	8 28	8 41	8 56	9 14
13	6 9	6 25	6 43	7 3	7 15	7 29	7 46	8 6	8 16	8 27	8 40	8 54	9 12
14	6 9	6 25	6 43	7 3	7 15	7 29	7 45	8 5	8 15	8 26	8 39	8 53	9 11
15	6 9	6 25	6 43	7 3	7 15	7 28	7 44	8 5	8 14	8 25	8 37	8 52	9 9
16	6 9	6 25	6 42	7 2	7 14	7 28	7 44	8 4	8 13	8 24	8 36	8 50	9 7
17	6 9	6 25	6 42	7 2	7 14	7 27	7 43	8 3	8 12	8 23	8 35	8 49	9 5
18	6 10	6 25	6 42	7 2	7 13	7 26	7 42	8 2	8 11	8 22	8 33	8 47	9 3
19	6 10	6 25	6 42	7 1	7 13	7 26	7 41	8 1	8 10	8 20	8 32	8 45	9 2
20	6 10	6 25	6 42	7 1	7 12	7 25	7 40	8 0	8 9	8 19	8 30	8 44	9 0
21	6 10	6 25	6 41	7 0	7 12	7 24	7 40	7 58	8 7	8 18	8 29	8 42	8 58
22	6 10	6 25	6 41	7 0	7 11	7 24	7 39	7 57	8 6	8 16	8 27	8 40	8 56
23	6 10	6 25	6 41	6 59	7 10	7 23	7 38	7 56	8 5	8 15	8 26	8 38	8 54
24	6 10	6 24	6 40	6 59	7 10	7 22	7 37	7 55	8 4	8 13	8 24	8 37	8 51
25	6 10	6 24	6 40	6 58	7 9	7 21	7 36	7 54	8 2	8 12	8 22	8 35	8 49
26	6 10	6 24	6 40	6 58	7 8	7 20	7 35	7 52	8 1	8 10	8 21	8 33	8 47
27	6 10	6 24	6 39	6 57	7 8	7 19	7 34	7 51	7 59	8 8	8 19	8 31	8 45
28	6 10	6 24	6 39	6 56	7 7	7 18	7 32	7 50	7 58	8 7	8 17	8 29	8 42
29	6 10	6 24	6 39	6 56	7 6	7 18	7 31	7 48	7 56	8 5	8 15	8 27	8 40
30	6 10	6 23	6 38	6 55	7 5	7 17	7 30	7 47	7 55	8 3	8 13	8 24	8 38
31	6 10	6 23	6 38	6 54	7 4	7 16	7 29	7 45	7 53	8 2	8 11	8 22	8 35
Aug. 1	6 10	6 23	6 37	6 54	7 4	7 14	7 28	7 44	7 51	8 0	8 9	8 20	8 33
2	6 9	6 22	6 37	6 53	7 3	7 14	7 26	7 42	7 50	7 58	8 7	8 18	8 30
3	6 9	6 22	6 36	6 52	7 2	7 12	7 25	7 41	7 48	7 56	8 5	8 16	8 28
4	6 9	6 22	6 36	6 52	7 1	7 11	7 24	7 39	7 46	7 54	8 3	8 14	8 25
5	6 9	6 22	6 35	6 51	7 0	7 10	7 22	7 38	7 45	7 52	8 1	8 11	8 23
6	6 9	6 22	6 35	6 50	6 59	7 9	7 21	7 36	7 43	7 50	7 59	8 9	8 20
7	6 9	6 21	6 34	6 49	6 58	7 8	7 20	7 34	7 41	7 48	7 57	8 6	8 17
8	6 9	6 21	6 34	6 48	6 57	7 7	7 18	7 32	7 39	7 46	7 55	8 4	8 15
9	6 9	6 20	6 33	6 47	6 56	7 6	7 17	7 31	7 37	7 44	7 52	8 2	8 12
10	6 9	6 20	6 32	6 46	6 55	7 4	7 15	7 29	7 35	7 42	7 50	7 59	8 9
11	6 8	6 20	6 32	6 46	6 54	7 3	7 14	7 27	7 33	7 40	7 48	7 57	8 7
12	6 8	6 19	6 31	6 45	6 53	7 2	7 12	7 25	7 32	7 38	7 46	7 54	8 4
13	6 8	6 19	6 30	6 44	6 52	7 0	7 11	7 24	7 30	7 36	7 44	7 52	8 1
14	6 8	6 18	6 30	6 43	6 50	6 59	7 9	7 22	7 28	7 34	7 41	7 49	7 58
15	6 8	6 18	6 29	6 42	6 49	6 58	7 8	7 20	7 26	7 32	7 39	7 47	7 56
16	6 8	6 18	6 28	6 41	6 48	6 56	7 6	7 18	7 24	7 30	7 37	7 44	7 53
17	6 7	6 17	6 28	6 40	6 47	6 55	7 5	7 16	7 22	7 28	7 34	7 42	7 50

TABLE IV.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	18 1	17 51	17 40	17 28	17 21	17 12	17 3	16 51	16 46	16 40	16 33	16 25	16 17
17	18 1	17 51	17 41	17 28	17 21	17 13	17 4	16 52	16 47	16 41	16 35	16 27	16 19
18	18 0	17 51	17 41	17 29	17 22	17 14	17 5	16 54	16 49	16 43	16 37	16 30	16 22
19	18 0	17 51	17 41	17 30	17 23	17 15	17 6	16 56	16 50	16 45	16 39	16 32	16 24
20	18 0	17 51	17 41	17 30	17 24	17 16	17 8	16 57	16 52	16 47	16 41	16 34	16 26
21	18 0	17 51	17 42	17 31	17 24	17 17	17 9	16 58	16 54	16 48	16 43	16 36	16 29
22	17 59	17 51	17 42	17 31	17 25	17 18	17 10	17 0	16 55	16 50	16 44	16 38	16 31
23	17 59	17 51	17 42	17 32	17 26	17 19	17 11	17 1	16 57	16 52	16 46	16 40	16 34
24	17 59	17 51	17 42	17 32	17 27	17 20	17 12	17 3	16 59	16 54	16 48	16 42	16 36
25	17 58	17 51	17 43	17 33	17 27	17 21	17 14	17 4	17 0	16 56	16 50	16 45	16 38
26	17 58	17 51	17 43	17 34	17 28	17 22	17 15	17 6	17 2	16 57	16 52	16 47	16 41
27	17 58	17 51	17 43	17 34	17 29	17 23	17 16	17 7	17 4	16 59	16 54	16 49	16 43
28	17 58	17 51	17 43	17 35	17 30	17 24	17 17	17 9	17 5	17 1	16 56	16 51	16 45
29	17 57	17 51	17 44	17 35	17 30	17 25	17 18	17 10	17 7	17 3	16 58	16 53	16 48
30	17 57	17 51	17 44	17 36	17 31	17 26	17 19	17 12	17 8	17 4	17 0	16 55	16 50
31	17 57	17 51	17 44	17 36	17 32	17 27	17 21	17 13	17 10	17 6	17 2	16 58	16 53
Sept. 1	17 56	17 51	17 44	17 37	17 32	17 28	17 22	17 15	17 12	17 8	17 4	17 0	16 55
2	17 56	17 51	17 44	17 37	17 33	17 28	17 23	17 16	17 13	17 10	17 6	17 2	16 57
3	17 56	17 51	17 45	17 38	17 34	17 29	17 24	17 18	17 15	17 12	17 8	17 4	17 0
4	17 56	17 50	17 45	17 38	17 35	17 30	17 25	17 19	17 16	17 13	17 10	17 6	17 2
5	17 55	17 50	17 45	17 39	17 36	17 31	17 27	17 21	17 18	17 15	17 12	17 8	17 4
6	17 55	17 50	17 45	17 40	17 36	17 32	17 28	17 22	17 20	17 17	17 14	17 10	17 7
7	17 55	17 50	17 46	17 40	17 37	17 33	17 29	17 24	17 22	17 19	17 16	17 13	17 9
8	17 54	17 50	17 46	17 41	17 38	17 34	17 30	17 25	17 23	17 21	17 18	17 15	17 12
9	17 54	17 50	17 46	17 41	17 38	17 35	17 31	17 27	17 25	17 22	17 20	17 17	17 14
10	17 54	17 50	17 46	17 42	17 39	17 36	17 33	17 28	17 26	17 24	17 22	17 19	17 16
11	17 53	17 50	17 46	17 42	17 40	17 37	17 34	17 30	17 28	17 26	17 24	17 21	17 18
12	17 53	17 50	17 47	17 43	17 41	17 38	17 35	17 31	17 30	17 28	17 26	17 23	17 21
13	17 53	17 50	17 47	17 43	17 41	17 39	17 36	17 33	17 31	17 30	17 28	17 26	17 23
14	17 52	17 50	17 47	17 44	17 42	17 40	17 37	17 34	17 33	17 31	17 30	17 28	17 26
15	17 52	17 50	17 47	17 44	17 43	17 41	17 39	17 36	17 35	17 33	17 32	17 30	17 28
16	17 52	17 50	17 48	17 45	17 44	17 42	17 40	17 37	17 36	17 35	17 34	17 32	17 30
17	17 51	17 50	17 48	17 46	17 44	17 43	17 41	17 39	17 38	17 37	17 36	17 34	17 33
18	17 51	17 50	17 48	17 46	17 45	17 44	17 42	17 40	17 40	17 38	17 38	17 36	17 35
19	17 50	17 49	17 48	17 47	17 46	17 45	17 43	17 42	17 41	17 40	17 39	17 38	17 37
20	17 50	17 49	17 48	17 47	17 46	17 46	17 45	17 43	17 43	17 42	17 41	17 40	17 40
21	17 50	17 49	17 49	17 48	17 47	17 46	17 46	17 45	17 44	17 44	17 43	17 43	17 42
22	17 49	17 49	17 49	17 48	17 48	17 48	17 47	17 46	17 46	17 46	17 45	17 45	17 44
23	17 49	17 49	17 49	17 49	17 49	17 48	17 48	17 48	17 48	17 47	17 47	17 47	17 47
24	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 49
25	17 48	17 49	17 50	17 50	17 50	17 50	17 51	17 51	17 51	17 51	17 51	17 51	17 51
26	17 48	17 49	17 50	17 50	17 51	17 51	17 52	17 52	17 53	17 53	17 53	17 53	17 54
27	17 48	17 49	17 50	17 51	17 52	17 52	17 53	17 54	17 54	17 55	17 55	17 56	17 56
28	17 47	17 49	17 50	17 52	17 52	17 53	17 54	17 55	17 56	17 56	17 57	17 58	17 58
29	17 47	17 49	17 50	17 52	17 53	17 54	17 56	17 57	17 58	17 58	17 59	18 0	18 1
30	17 47	17 49	17 51	17 53	17 54	17 55	17 57	17 58	17 59	18 0	18 1	18 2	18 3
Oct. 1	17 46	17 49	17 51	17 53	17 55	17 56	17 58	18 0	18 1	18 2	18 3	18 4	18 6

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 17	6 7	6 17	6 28	6 40	6 47	6 55	7 5	7 16	7 22	7 28	7 34	7 42	7 50
18	6 7	6 17	6 27	6 39	6 46	6 54	7 3	7 14	7 20	7 25	7 32	7 39	7 47
19	6 7	6 16	6 26	6 38	6 45	6 52	7 1	7 12	7 18	7 23	7 29	7 36	7 44
20	6 7	6 16	6 26	6 37	6 44	6 51	7 0	7 10	7 15	7 21	7 27	7 34	7 42
21	6 6	6 15	6 25	6 36	6 42	6 50	6 58	7 8	7 13	7 18	7 24	7 31	7 39
22	6 6	6 15	6 24	6 35	6 41	6 48	6 56	7 6	7 11	7 16	7 22	7 28	7 36
23	6 6	6 14	6 23	6 34	6 40	6 47	6 55	7 4	7 9	7 14	7 20	7 26	7 33
24	6 6	6 14	6 22	6 32	6 38	6 45	6 53	7 2	7 7	7 12	7 17	7 23	7 30
25	6 6	6 13	6 22	6 31	6 37	6 44	6 51	7 0	7 5	7 9	7 15	7 20	7 27
26	6 5	6 13	6 21	6 30	6 36	6 42	6 50	6 58	7 2	7 7	7 12	7 18	7 24
27	6 5	6 12	6 20	6 29	6 35	6 41	6 48	6 56	7 0	7 5	7 10	7 15	7 21
28	6 5	6 12	6 19	6 28	6 33	6 39	6 46	6 54	6 58	7 2	7 7	7 12	7 18
29	6 4	6 11	6 18	6 27	6 32	6 38	6 44	6 52	6 56	7 0	7 5	7 10	7 15
30	6 4	6 10	6 18	6 26	6 31	6 36	6 42	6 50	6 54	6 58	7 2	7 7	7 12
31	6 4	6 10	6 17	6 25	6 29	6 34	6 41	6 48	6 52	6 55	6 59	7 4	7 9
Sept. 1	6 3	6 9	6 16	6 23	6 28	6 33	6 39	6 46	6 49	6 53	6 57	7 1	7 6
2	6 3	6 9	6 15	6 22	6 26	6 31	6 37	6 44	6 47	6 50	6 54	6 58	7 3
3	6 3	6 8	6 14	6 21	6 25	6 30	6 35	6 42	6 45	6 48	6 52	6 56	7 0
4	6 2	6 8	6 13	6 20	6 24	6 28	6 33	6 40	6 42	6 46	6 49	6 53	6 57
5	6 2	6 7	6 12	6 19	6 22	6 27	6 32	6 37	6 40	6 43	6 46	6 50	6 54
6	6 2	6 6	6 12	6 17	6 21	6 25	6 30	6 35	6 38	6 41	6 44	6 47	6 51
7	6 1	6 6	6 11	6 16	6 20	6 23	6 28	6 33	6 36	6 38	6 41	6 45	6 48
8	6 1	6 5	6 10	6 15	6 18	6 22	6 26	6 31	6 33	6 36	6 39	6 42	6 45
9	6 1	6 5	6 9	6 14	6 17	6 20	6 24	6 29	6 31	6 33	6 36	6 39	6 42
10	6 0	6 4	6 8	6 12	6 15	6 18	6 22	6 26	6 28	6 31	6 33	6 36	6 39
11	6 0	6 4	6 7	6 11	6 14	6 17	6 20	6 24	6 26	6 28	6 31	6 33	6 36
12	6 0	6 3	6 6	6 10	6 12	6 15	6 18	6 22	6 24	6 26	6 28	6 30	6 33
13	5 59	6 2	6 5	6 9	6 11	6 14	6 16	6 20	6 22	6 23	6 25	6 28	6 30
14	5 59	6 2	6 4	6 8	6 10	6 12	6 15	6 18	6 19	6 21	6 23	6 25	6 27
15	5 59	6 1	6 3	6 6	6 8	6 10	6 13	6 16	6 17	6 18	6 20	6 22	6 24
16	5 59	6 0	6 2	6 5	6 7	6 9	6 11	6 13	6 15	6 16	6 17	6 19	6 21
17	5 58	6 0	6 2	6 4	6 5	6 7	6 9	6 11	6 12	6 13	6 15	6 16	6 18
18	5 58	5 59	6 1	6 3	6 4	6 5	6 7	6 9	6 10	6 11	6 12	6 13	6 15
19	5 57	5 58	6 0	6 1	6 2	6 4	6 5	6 7	6 8	6 8	6 9	6 10	6 12
20	5 57	5 58	5 59	6 0	6 1	6 2	6 3	6 4	6 5	6 6	6 7	6 8	6 9
21	5 56	5 57	5 58	5 59	6 0	6 0	6 1	6 2	6 3	6 3	6 4	6 5	6 6
22	5 56	5 56	5 57	5 58	5 58	5 59	5 59	6 0	6 0	6 1	6 1	6 2	6 2
23	5 56	5 56	5 56	5 56	5 57	5 57	5 57	5 58	5 58	5 58	5 59	5 59	5 59
24	5 56	5 55	5 55	5 55	5 55	5 55	5 56	5 56	5 56	5 56	5 56	5 56	5 56
25	5 55	5 55	5 54	5 54	5 54	5 54	5 54	5 54	5 54	5 53	5 53	5 53	5 53
26	5 55	5 54	5 53	5 53	5 52	5 52	5 52	5 51	5 51	5 51	5 51	5 51	5 50
27	5 54	5 53	5 52	5 51	5 51	5 50	5 50	5 49	5 49	5 48	5 48	5 48	5 47
28	5 54	5 53	5 52	5 50	5 50	5 49	5 48	5 47	5 46	5 46	5 45	5 45	5 44
29	5 54	5 52	5 51	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 43	5 42	5 41
30	5 54	5 52	5 50	5 48	5 47	5 45	5 44	5 42	5 42	5 41	5 40	5 39	5 38
Oct. 1	5 53	5 51	5 49	5 47	5 45	5 44	5 42	5 40	5 40	5 39	5 38	5 36	5 35
2	5 53	5 50	5 48	5 45	5 44	5 42	5 40	5 38	5 37	5 36	5 35	5 34	5 32

TABLE IV.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 1	17 46	17 49	17 51	17 53	17 55	17 56	17 58	18 0	18 1	18 2	18 3	18 4	18 6
2	17 46	17 49	17 51	17 54	17 56	17 57	17 59	18 2	18 3	18 4	18 5	18 6	18 8
3	17 46	17 49	17 51	17 54	17 56	17 58	18 0	18 3	18 4	18 6	18 7	18 9	18 10
4	17 46	17 49	17 52	17 55	17 57	17 59	18 2	18 5	18 6	18 8	18 9	18 11	18 13
5	17 45	17 48	17 52	17 56	17 58	18 0	18 3	18 6	18 8	18 9	18 11	18 13	18 15
6	17 45	17 49	17 52	17 56	17 59	18 1	18 4	18 8	18 9	18 11	18 13	18 15	18 18
7	17 44	17 48	17 52	17 57	18 0	18 2	18 6	18 9	18 11	18 13	18 15	18 17	18 20
8	17 44	17 48	17 53	17 58	18 0	18 3	18 7	18 11	18 13	18 15	18 17	18 20	18 22
9	17 44	17 48	17 53	17 58	18 1	18 4	18 8	18 12	18 14	18 17	18 19	18 22	18 25
10	17 44	17 48	17 53	17 59	18 2	18 5	18 9	18 14	18 16	18 19	18 21	18 24	18 27
11	17 44	17 48	17 54	17 59	18 3	18 6	18 11	18 16	18 18	18 20	18 23	18 26	18 30
12	17 43	17 48	17 54	18 0	18 4	18 7	18 12	18 17	18 20	18 22	18 25	18 28	18 32
13	17 43	17 48	17 54	18 1	18 4	18 8	18 13	18 19	18 21	18 24	18 27	18 31	18 35
14	17 43	17 48	17 54	18 1	18 5	18 10	18 14	18 20	18 23	18 26	18 29	18 33	18 37
15	17 42	17 49	17 55	18 2	18 6	18 10	18 16	18 22	18 25	18 28	18 31	18 35	18 40
16	17 42	17 49	17 55	18 3	18 7	18 12	18 17	18 24	18 27	18 30	18 33	18 38	18 42
17	17 42	17 49	17 56	18 3	18 8	18 13	18 18	18 25	18 28	18 32	18 36	18 40	18 44
18	17 42	17 49	17 56	18 4	18 9	18 14	18 20	18 27	18 30	18 34	18 38	18 42	18 47
19	17 42	17 49	17 56	18 4	18 9	18 15	18 21	18 28	18 32	18 36	18 40	18 44	18 50
20	17 42	17 49	17 57	18 5	18 10	18 16	18 22	18 30	18 34	18 38	18 42	18 47	18 52
21	17 41	17 49	17 57	18 6	18 11	18 17	18 24	18 32	18 35	18 39	18 44	18 49	18 54
22	17 41	17 49	17 57	18 7	18 12	18 18	18 25	18 33	18 37	18 41	18 46	18 51	18 57
23	17 41	17 49	17 58	18 7	18 13	18 19	18 26	18 35	18 39	18 43	18 48	18 54	19 0
24	17 41	17 49	17 58	18 8	18 14	18 20	18 28	18 37	18 41	18 45	18 50	18 56	19 2
25	17 41	17 50	17 59	18 9	18 15	18 21	18 29	18 38	18 42	18 47	18 52	18 58	19 5
26	17 41	17 50	17 59	18 10	18 16	18 22	18 30	18 40	18 44	18 49	18 54	19 0	19 7
27	17 41	17 50	17 59	18 10	18 17	18 24	18 32	18 42	18 46	18 51	18 57	19 3	19 10
28	17 40	17 50	18 0	18 11	18 18	18 25	18 33	18 43	18 48	18 53	18 59	19 5	19 12
29	17 40	17 50	18 0	18 12	18 18	18 26	18 35	18 45	18 50	18 55	19 1	19 7	19 15
30	17 40	17 50	18 1	18 12	18 19	18 27	18 36	18 46	18 51	18 57	19 3	19 10	19 17
31	17 40	17 50	18 1	18 13	18 20	18 28	18 37	18 48	18 53	18 59	19 5	19 12	19 20
Nov. 1	17 40	17 51	18 2	18 14	18 21	18 29	18 39	18 50	18 55	19 1	19 7	19 14	19 22
2	17 40	17 51	18 2	18 15	18 22	18 30	18 40	18 52	18 57	19 3	19 9	19 17	19 25
3	17 40	17 51	18 3	18 16	18 23	18 32	18 41	18 53	18 59	19 5	19 11	19 19	19 28
4	17 40	17 51	18 3	18 16	18 24	18 33	18 43	18 55	19 0	19 7	19 14	19 21	19 30
5	17 40	17 52	18 4	18 17	18 25	18 34	18 44	18 56	19 2	19 9	19 16	19 24	19 33
6	17 40	17 52	18 4	18 18	18 26	18 35	18 46	18 58	19 4	19 11	19 18	19 26	19 35
7	17 40	17 52	18 5	18 19	18 27	18 36	18 47	19 0	19 6	19 13	19 20	19 28	19 38
8	17 40	17 52	18 5	18 20	18 28	18 37	18 48	19 2	19 8	19 14	19 22	19 31	19 40
9	17 41	17 53	18 6	18 20	18 29	18 38	18 50	19 3	19 10	19 16	19 24	19 33	19 43
10	17 41	17 53	18 6	18 21	18 30	18 40	18 51	19 5	19 11	19 18	19 26	19 35	19 46
11	17 41	17 53	18 7	18 22	18 31	18 41	18 52	19 6	19 13	19 20	19 28	19 38	19 48
12	17 41	17 54	18 7	18 23	18 32	18 42	18 54	19 8	19 15	19 22	19 30	19 40	19 51
13	17 41	17 54	18 8	18 24	18 33	18 43	18 55	19 10	19 17	19 24	19 33	19 42	19 53
14	17 41	17 54	18 9	18 25	18 34	18 44	18 57	19 11	19 18	19 26	19 35	19 45	19 56
15	17 41	17 55	18 9	18 25	18 35	18 45	18 58	19 13	19 20	19 28	19 37	19 47	19 58
16	17 42	17 55	18 10	18 26	18 36	18 47	18 59	19 15	19 22	19 30	19 39	19 49	20 1

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 2	5 53	5 50	5 48	5 45	5 44	5 42	5 40	5 38	5 37	5 36	5 35	5 34	5 32
3	5 52	5 50	5 47	5 44	5 42	5 41	5 38	5 36	5 35	5 34	5 32	5 31	5 29
4	5 52	5 49	5 46	5 43	5 41	5 39	5 37	5 34	5 33	5 31	5 30	5 28	5 26
5	5 52	5 49	5 45	5 42	5 40	5 37	5 35	5 32	5 30	5 29	5 27	5 25	5 23
6	5 52	5 48	5 44	5 41	5 38	5 36	5 33	5 30	5 28	5 26	5 24	5 22	5 20
7	5 51	5 48	5 44	5 39	5 37	5 34	5 31	5 27	5 26	5 24	5 22	5 20	5 17
8	5 51	5 47	5 43	5 38	5 36	5 33	5 29	5 25	5 24	5 21	5 19	5 17	5 14
9	5 51	5 46	5 42	5 37	5 34	5 31	5 28	5 23	5 22	5 19	5 17	5 14	5 11
10	5 50	5 46	5 41	5 36	5 33	5 30	5 26	5 21	5 19	5 17	5 14	5 11	5 8
11	5 50	5 45	5 40	5 35	5 32	5 28	5 24	5 19	5 17	5 14	5 12	5 9	5 5
12	5 50	5 45	5 40	5 34	5 30	5 26	5 22	5 17	5 14	5 12	5 9	5 6	5 2
13	5 50	5 44	5 39	5 32	5 29	5 25	5 20	5 15	5 12	5 10	5 7	5 3	5 0
14	5 49	5 44	5 38	5 31	5 28	5 23	5 18	5 13	5 10	5 7	5 4	5 0	4 56
15	5 49	5 43	5 37	5 30	5 26	5 22	5 17	5 11	5 8	5 5	5 2	4 58	4 54
16	5 49	5 43	5 36	5 29	5 25	5 20	5 15	5 9	5 6	5 2	4 59	4 55	4 51
17	5 49	5 42	5 36	5 28	5 24	5 19	5 13	5 7	5 4	5 0	4 56	4 52	4 48
18	5 49	5 42	5 35	5 27	5 23	5 17	5 12	5 5	5 1	4 58	4 54	4 50	4 45
19	5 48	5 42	5 34	5 26	5 21	5 16	5 10	5 3	4 59	4 56	4 52	4 47	4 42
20	5 48	5 41	5 34	5 25	5 20	5 14	5 8	5 1	4 57	4 53	4 49	4 44	4 39
21	5 48	5 41	5 33	5 24	5 19	5 13	5 6	4 59	4 55	4 51	4 47	4 42	4 36
22	5 48	5 40	5 32	5 23	5 18	5 12	5 5	4 57	4 53	4 49	4 44	4 39	4 34
23	5 48	5 40	5 31	5 22	5 16	5 10	5 3	4 55	4 51	4 46	4 42	4 36	4 31
24	5 48	5 39	5 31	5 21	5 15	5 9	5 2	4 53	4 49	4 44	4 40	4 34	4 28
25	5 48	5 39	5 30	5 20	5 14	5 8	5 0	4 51	4 47	4 42	4 37	4 31	4 25
26	5 47	5 39	5 29	5 19	5 13	5 6	4 58	4 49	4 45	4 40	4 35	4 29	4 22
27	5 47	5 38	5 29	5 18	5 12	5 5	4 57	4 47	4 43	4 38	4 32	4 26	4 20
28	5 47	5 38	5 28	5 17	5 11	5 4	4 55	4 45	4 41	4 36	4 30	4 24	4 17
29	5 47	5 38	5 28	5 16	5 10	5 2	4 54	4 44	4 39	4 34	4 28	4 22	4 14
30	5 47	5 37	5 27	5 15	5 9	5 1	4 52	4 42	4 37	4 32	4 26	4 19	4 12
31	5 47	5 37	5 27	5 14	5 8	5 0	4 51	4 40	4 35	4 30	4 23	4 17	4 9
Nov. 1	5 47	5 37	5 26	5 14	5 7	4 59	4 50	4 38	4 33	4 28	4 21	4 14	4 6
2	5 47	5 37	5 26	5 13	5 6	4 58	4 48	4 37	4 31	4 26	4 19	4 12	4 4
3	5 47	5 36	5 25	5 12	5 5	4 56	4 47	4 35	4 30	4 24	4 17	4 10	4 1
4	5 47	5 36	5 25	5 11	5 4	4 55	4 45	4 33	4 28	4 22	4 15	4 7	3 58
5	5 47	5 36	5 24	5 11	5 3	4 54	4 44	4 32	4 26	4 20	4 13	4 5	3 56
6	5 47	5 36	5 24	5 10	5 2	4 53	4 43	4 30	4 24	4 18	4 11	4 3	3 53
7	5 47	5 36	5 23	5 9	5 1	4 52	4 41	4 28	4 23	4 16	4 9	4 0	3 51
8	5 47	5 35	5 23	5 8	5 0	4 51	4 40	4 27	4 21	4 14	4 7	3 58	3 48
9	5 47	5 35	5 22	5 8	5 0	4 50	4 39	4 25	4 19	4 12	4 5	3 56	3 46
10	5 48	5 35	5 22	5 7	4 59	4 49	4 38	4 24	4 18	4 11	4 3	3 54	3 44
11	5 48	5 35	5 22	5 7	4 58	4 48	4 36	4 22	4 16	4 9	4 1	3 52	3 41
12	5 48	5 35	5 21	5 6	4 57	4 47	4 35	4 21	4 14	4 7	3 59	3 50	3 39
13	5 48	5 35	5 21	5 6	4 56	4 46	4 34	4 20	4 13	4 6	3 57	3 48	3 37
14	5 48	5 35	5 21	5 5	4 56	4 45	4 33	4 18	4 11	4 4	3 55	3 47	3 34
15	5 48	5 35	5 20	5 4	4 55	4 44	4 32	4 17	4 10	4 2	3 54	3 44	3 32
16	5 48	5 35	5 20	5 4	4 55	4 44	4 31	4 16	4 9	4 1	3 52	3 42	3 30
17	5 48	5 35	5 20	5 3	4 54	4 43	4 30	4 14	4 7	3 59	3 50	3 40	3 28

TABLE IV.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	17 42	17 55	18 10	18 26	18 36	18 47	18 59	19 15	19 22	19 30	19 39	19 49	20 1
17	17 42	17 56	18 10	18 27	18 37	18 48	19 1	19 16	19 24	19 32	19 41	19 51	20 3
18	17 42	17 56	18 11	18 28	18 38	18 49	19 2	19 18	19 25	19 34	19 43	19 54	20 6
19	17 42	17 56	18 12	18 29	18 39	18 50	19 3	19 20	19 27	19 36	19 45	19 56	20 8
20	17 42	17 57	18 12	18 30	18 40	18 51	19 4	19 21	19 29	19 37	19 47	19 58	20 11
21	17 42	17 57	18 13	18 30	18 40	18 52	19 6	19 22	19 30	19 39	19 49	20 0	20 13
22	17 43	17 58	18 13	18 31	18 42	18 53	19 7	19 24	19 32	19 41	19 51	20 2	20 15
23	17 43	17 58	18 14	18 32	18 42	18 54	19 8	19 26	19 34	19 43	19 53	20 4	20 18
24	17 43	17 59	18 15	18 33	18 44	18 56	19 10	19 27	19 35	19 44	19 55	20 6	20 20
25	17 44	17 59	18 15	18 34	18 44	18 56	19 11	19 29	19 37	19 46	19 56	20 8	20 22
26	17 44	18 0	18 16	18 34	18 45	18 58	19 12	19 30	19 38	19 48	19 58	20 10	20 25
27	17 44	18 0	18 16	18 35	18 46	18 59	19 14	19 32	19 40	19 50	20 0	20 12	20 27
28	17 44	18 0	18 17	18 36	18 47	19 0	19 15	19 33	19 42	19 51	20 2	20 14	20 29
29	17 45	18 1	18 18	18 37	18 48	19 1	19 16	19 34	19 43	19 53	20 4	20 16	20 31
30	17 45	18 1	18 18	18 38	18 49	19 2	19 17	19 36	19 44	19 54	20 5	20 18	20 33
Dec. 1	17 46	18 2	18 19	18 39	18 50	19 3	19 18	19 37	19 46	19 56	20 7	20 20	20 35
2	17 46	18 2	18 20	18 39	18 51	19 4	19 19	19 38	19 47	19 57	20 9	20 22	20 37
3	17 46	18 3	18 20	18 40	18 52	19 5	19 20	19 40	19 49	19 59	20 10	20 24	20 39
4	17 47	18 3	18 21	18 41	18 52	19 6	19 22	19 41	19 50	20 0	20 12	20 25	20 41
5	17 47	18 4	18 22	18 42	18 53	19 7	19 23	19 42	19 51	20 2	20 13	20 27	20 43
6	17 48	18 4	18 22	18 42	18 54	19 8	19 24	19 43	19 53	20 3	20 15	20 29	20 45
7	17 48	18 5	18 23	18 43	18 55	19 9	19 25	19 44	19 54	20 4	20 16	20 30	20 46
8	17 49	18 6	18 23	18 44	18 56	19 10	19 26	19 46	19 55	20 6	20 18	20 32	20 48
9	17 49	18 6	18 24	18 45	18 57	19 10	19 27	19 47	19 56	20 7	20 19	20 33	20 50
10	17 49	18 6	18 25	18 45	18 57	19 11	19 28	19 48	19 57	20 8	20 20	20 34	20 51
11	17 50	18 7	18 25	18 46	18 58	19 12	19 28	19 49	19 58	20 9	20 21	20 36	20 52
12	17 50	18 8	18 26	18 47	18 59	19 13	19 29	19 50	19 59	20 10	20 23	20 37	20 54
13	17 51	18 8	18 26	18 47	19 0	19 14	19 30	19 50	20 0	20 11	20 24	20 38	20 55
14	17 51	18 9	18 27	18 48	19 0	19 14	19 31	19 51	20 1	20 12	20 25	20 39	20 56
15	17 52	18 9	18 28	18 49	19 1	19 15	19 32	19 52	20 2	20 13	20 26	20 40	20 57
16	17 52	18 10	18 28	18 49	19 2	19 16	19 32	19 53	20 3	20 14	20 26	20 41	20 58
17	17 53	18 10	18 29	18 50	19 2	19 16	19 33	19 54	20 4	20 15	20 27	20 42	21 0
18	17 53	18 11	18 29	18 50	19 3	19 17	19 34	19 54	20 4	20 15	20 28	20 43	21 0
19	17 54	18 11	18 30	18 51	19 3	19 17	19 34	19 55	20 5	20 16	20 29	20 44	21 1
20	17 54	18 12	18 30	18 52	19 4	19 18	19 35	19 56	20 6	20 17	20 30	20 44	21 2
21	17 55	18 12	18 31	18 52	19 4	19 18	19 35	19 56	20 6	20 17	20 30	20 45	21 2
22	17 55	18 13	18 31	18 52	19 5	19 19	19 36	19 57	20 7	20 18	20 30	20 45	21 3
23	17 56	18 13	18 32	18 53	19 5	19 20	19 36	19 57	20 7	20 18	20 31	20 46	21 3
24	17 56	18 14	18 32	18 53	19 6	19 20	19 37	19 58	20 8	20 19	20 31	20 46	21 4
25	17 57	18 14	18 32	18 54	19 6	19 20	19 37	19 58	20 8	20 19	20 32	20 46	21 4
26	17 57	18 14	18 33	18 54	19 7	19 21	19 38	19 58	20 8	20 19	20 32	20 47	21 4
27	17 58	18 15	18 33	18 55	19 7	19 21	19 38	19 58	20 8	20 19	20 32	20 47	21 4
28	17 58	18 15	18 34	18 55	19 7	19 21	19 38	19 59	20 9	20 20	20 32	20 47	21 4
29	17 59	18 16	18 34	18 55	19 8	19 22	19 38	19 59	20 9	20 20	20 32	20 47	21 4
30	17 59	18 16	18 35	18 56	19 8	19 22	19 38	19 59	20 9	20 20	20 32	20 46	21 4
31	17 59	18 17	18 35	18 56	19 8	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 3

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1918.

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For sunset in southern latitudes see page 60.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 17	5 48	5 35	5 20	5 3	4 54	4 43	4 30	4 14	4 7	3 59	3 50	3 40	3 28
18	5 49	5 35	5 20	5 3	4 53	4 42	4 29	4 13	4 6	3 58	3 48	3 38	3 26
19	5 49	5 35	5 20	5 3	4 53	4 42	4 28	4 12	4 5	3 56	3 47	3 36	3 24
20	5 49	5 35	5 20	5 2	4 52	4 41	4 27	4 11	4 3	3 55	3 45	3 34	3 22
21	5 49	5 35	5 19	5 2	4 52	4 40	4 26	4 10	4 2	3 54	3 44	3 33	3 20
22	5 50	5 35	5 19	5 2	4 51	4 40	4 26	4 9	4 1	3 52	3 42	3 31	3 18
23	5 50	5 35	5 19	5 1	4 51	4 39	4 25	4 8	4 0	3 51	3 41	3 30	3 16
24	5 50	5 35	5 19	5 1	4 50	4 38	4 24	4 7	3 59	3 50	3 40	3 28	3 14
25	5 51	5 35	5 19	5 1	4 50	4 38	4 24	4 6	3 58	3 49	3 38	3 26	3 12
26	5 51	5 36	5 19	5 1	4 50	4 38	4 23	4 5	3 57	3 48	3 37	3 25	3 11
27	5 51	5 36	5 19	5 0	4 50	4 37	4 22	4 4	3 56	3 47	3 36	3 24	3 10
28	5 52	5 36	5 19	5 0	4 49	4 37	4 22	4 4	3 55	3 46	3 35	3 22	3 8
29	5 52	5 36	5 19	5 0	4 49	4 36	4 21	4 3	3 54	3 45	3 34	3 21	3 6
30	5 52	5 36	5 19	5 0	4 49	4 36	4 21	4 2	3 54	3 44	3 33	3 20	3 5
Dec. 1	5 53	5 36	5 19	5 0	4 49	4 36	4 20	4 2	3 53	3 43	3 32	3 19	3 4
2	5 53	5 37	5 20	5 0	4 48	4 35	4 20	4 1	3 52	3 42	3 31	3 18	3 2
3	5 53	5 37	5 20	5 0	4 48	4 35	4 20	4 1	3 52	3 41	3 30	3 17	3 1
4	5 54	5 37	5 20	5 0	4 48	4 35	4 19	4 0	3 51	3 41	3 29	3 16	3 0
5	5 54	5 38	5 20	5 0	4 48	4 35	4 19	4 0	3 50	3 40	3 28	3 15	2 59
6	5 55	5 38	5 20	5 0	4 48	4 35	4 19	3 59	3 50	3 40	3 28	3 14	2 58
7	5 55	5 38	5 20	5 0	4 48	4 35	4 19	3 59	3 50	3 39	3 27	3 14	2 57
8	5 55	5 38	5 21	5 0	4 48	4 35	4 18	3 59	3 49	3 39	3 27	3 13	2 56
9	5 56	5 39	5 21	5 0	4 48	4 35	4 18	3 58	3 49	3 38	3 26	3 12	2 56
10	5 56	5 39	5 21	5 1	4 49	4 35	4 18	3 58	3 49	3 38	3 26	3 12	2 55
11	5 57	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 49	3 38	3 26	3 11	2 54
12	5 57	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 48	3 38	3 25	3 11	2 54
13	5 58	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 48	3 38	3 25	3 11	2 54
14	5 58	5 41	5 23	5 2	4 49	4 35	4 19	3 58	3 48	3 38	3 25	3 10	2 53
15	5 59	5 41	5 23	5 2	4 50	4 36	4 19	3 58	3 48	3 38	3 25	3 10	2 53
16	5 59	5 42	5 23	5 2	4 50	4 36	4 19	3 58	3 49	3 38	3 25	3 10	2 53
17	6 0	5 42	5 24	5 3	4 50	4 36	4 19	3 59	3 49	3 38	3 25	3 10	2 53
18	6 0	5 43	5 24	5 3	4 51	4 36	4 20	3 59	3 49	3 38	3 25	3 10	2 53
19	6 1	5 43	5 25	5 3	4 51	4 37	4 20	3 59	3 49	3 38	3 26	3 11	2 53
20	6 1	5 44	5 25	5 4	4 52	4 37	4 20	4 0	3 50	3 39	3 26	3 11	2 54
21	6 2	5 44	5 26	5 4	4 52	4 38	4 21	4 0	3 50	3 39	3 26	3 12	2 54
22	6 2	5 45	5 26	5 5	4 52	4 38	4 21	4 1	3 51	3 40	3 27	3 12	2 54
23	6 3	5 45	5 27	5 5	4 53	4 39	4 22	4 1	3 51	3 40	3 27	3 12	2 55
24	6 3	5 46	5 27	5 6	4 54	4 39	4 22	4 2	3 52	3 41	3 28	3 13	2 56
25	6 4	5 46	5 28	5 6	4 54	4 40	4 23	4 2	3 52	3 41	3 29	3 14	2 56
26	6 4	5 47	5 28	5 7	4 55	4 40	4 24	4 3	3 53	3·42	3 29	3 15	2 57
27	6 4	5 47	5 29	5 8	4 55	4 41	4 24	4 4	3 54	3 43	3 30	3 15	2 58
28	6 5	5 48	5 29	5 8	4 56	4 42	4 25	4 4	3 55	3 44	3 31	3 16	2 59
29	6 6	5 48	5 30	5 9	4 56	4 42	4 26	4 5	3 56	3 44	3 32	3 17	3 0
30	6 6	5 49	5 30	5 9	4 57	4 43	4 27	4 6	3 56	3 45	3 33	3 18	3 1
31	6 7	5 49	5 31	5 10	4 58	4 44	4 27	4 7	3 58	3 46	3 34	3 20	3 2
32	6 7	5 50	5 32	5 11	4 59	4 45	4 28	4 8	3 58	3 48	3 35	3 21	3 4

TABLE V.

SUNRISE AND SUNSET FOR SOUTHERN LATITUDES, 1918.

In the case of a southern latitude the time of sunrise or sunset is taken from Table IV, with the corresponding northern latitude, not for the given date but for a date about six months earlier or later, which is to be found in the following table. The time taken from Table IV, whether of sunrise or of sunset, must be corrected by the quantity given in Table V on the same line with the given date.

Example.—May 10, 1918, civil date, in latitude −38°, required the time of sunrise and sunset.

The astronomical date is May 9 for sunrise and May 10 for sunset; Table V gives November 11 and 12 as the corresponding dates, northern latitude, while the correction is +12^m in each case.

	Sunrise.				Sunset.			
	d	h	m		d	h	m	
Table IV, Lat. +38°	Nov. 11	18	37		Nov. 12	4	51	
Table V	May 9	+	12		May 10	+	12	
Local astronomical mean time . .	May 9	18	49		May 10	5	3	
Civil time	May 10	6	49	A.M.	May 10	5	3	P.M.

Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.
		m			m			m			m
Jan. 0	July 2	−1	Feb. 5	Aug. 9	+ 9	Mar. 13	Sept. 15	+14	Apr. 18	Oct. 21	+15
1	3	0	6	10	9	14	16	14	19	22	15
2	4	0	7	11	9	15	17	15	20	23	14
3	5	0	8	12	9	16	18	15	21	24	14
4	6	+1	9	13	10	17	19	15	22	25	14
5	7	+1	10	14	+10	18	20	+15	23	26	+14
6	8	1	11	15	10	19	21	15	24	27	14
7	9	1	12	16	10	20	22	15	25	28	14
8	10	2	13	17	10	21	23	15	26	29	14
9	11	2	14	18	11	22	24	15	27	30	14
10	12	+2	15	19	+11	23	25	+15	28	31	+14
11	13	3	16	20	11	24	26	15	29	Nov. 1	14
12	14	3	17	21	11	25	27	15	30	2	14
13	15	3	18	23	11	26	28	15	May 1	3	13
14	16	3	19	24	12	27	29	15	2	4	13
15	18	+4	20	25	+12	28	30	+15	3	5	+13
16	19	4	21	26	12	29	Oct. 2	15	4	6	13
17	20	4	22	27	12	30	3	16	5	7	13
18	21	4	23	28	12	31	4	16	6	8	13
19	22	5	24	29	12	Apr. 1	5	16	7	9	13
20	23	+5	25	30	+13	2	6	+16	8	10	+12
21	24	5	26	31	13	3	7	15	9	11	12
22	25	5	27	Sept. 1	13	4	8	15	10	12	12
23	26	6	28	2	13	5	9	15	11	13	12
24	27	6	Mar. 1	3	13	6	10	15	12	14	12
25	28	+6	2	4	+13	7	10	+15	13	15	+12
26	29	6	3	5	13	8	11	15	14	16	11
27	30	7	4	6	14	9	12	15	15	16	11
28	31	7	5	7	14	10	13	15	16	17	11
29	Aug. 1	7	6	8	14	11	14	15	17	18	11
30	2	+7	7	9	+14	12	15	+15	18	19	+11
31	4	8	8	10	14	13	16	15	19	20	11
Feb. 1	5	8	9	11	14	14	17	15	20	21	10
2	6	8	10	12	14	15	18	15	21	22	10
3	7	8	11	13	14	16	19	15	22	23	10
4	8	+9	12	14	+14	17	20	+15	23	24	+10

SUNRISE AND SUNSET FOR SOUTHERN LATITUDES, 1918.

Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.	Given Date.	Corresponding Date, Northern Latitude.	Correction.
		m			m			m			m
May 24	Nov. 25	+10	July 19	Jan. 16	− 4	Sept. 13	Mar. 11	−14	Nov. 8	May 6	−13
25	26	9	20	17	4	14	12	14	9	7	13
26	27	9	21	18	4	15	13	14	10	8	12
27	28	9	22	19	5	16	14	14	11	9	12
28	29	9	23	20	5	17	15	15	12	10	12
29	30	+ 8	24	21	− 5	18	16	−15	13	11	−12
30	Dec. 1	8	25	22	5	19	17	15	14	12	12
31	2	8	26	23	6	20	18	15	15	13	12
June 1	3	8	27	24	6	21	19	15	16	15	11
2	4	8	28	25	6	22	20	15	17	16	11
3	5	+ 7	29	26	− 6	23	21	−15	18	17	−11
4	5	7	30	27	7	24	22	15	19	18	11
5	6	7	31	28	7	25	23	15	20	19	11
6	7	7	Aug. 1	29	7	26	24	15	21	20	10
7	8	7	2	30	7	27	25	15	22	21	10
8	9	+ 6	3	30	− 7	28	26	−15	23	22	−10
9	10	6	4	31	8	29	27	15	24	23	10
10	11	6	5	Feb. 1	8	30	28	15	25	24	10
11	12	6	6	2	8	Oct. 1	29	15	26	25	9
12	13	5	7	3	8	2	29	15	27	26	9
13	14	+ 5	8	4	− 9	3	30	−16	28	27	− 9
14	15	5	9	5	9	4	31	16	29	28	9
15	16	4	10	6	9	5	Apr. 1	16	30	29	8
16	17	4	11	7	9	6	2	16	Dec. 1	30	8
17	18	4	12	8	9	7	3	15	2	31	8
18	19	+ 4	13	9	−10	8	4	−15	3	June 1	− 8
19	20	4	14	10	10	9	5	15	4	2	8
20	20	4	15	11	10	10	7	15	5	4	7
21	21	3	16	12	10	11	8	15	6	5	7
22	22	3	17	13	10	12	9	15	7	6	7
23	23	+ 3	18	14	−11	13	10	−15	8	7	− 7
24	24	2	19	15	11	14	11	15	9	8	6
25	25	2	20	16	11	15	12	15	10	9	6
26	26	2	21	17	11	16	13	15	11	10	6
27	27	2	22	18	11	17	14	15	12	11	6
28	28	+ 1	23	18	−11	18	15	−15	13	12	− 5
29	29	1	24	19	12	19	16	15	14	13	5
30	30	1	25	20	12	20	17	15	15	14	5
July 1	Dec. 31	1	26	21	12	21	18	15	16	15	4
2	Jan. 0	+ 1	27	22	12	22	19	15	17	16	4
3	1	0	28	23	−12	23	20	−14	18	17	− 4
4	2	0	29	24	12	24	21	14	19	18	4
5	3	0	30	25	13	25	22	14	20	19	4
6	4	− 1	31	26	13	26	23	14	21	21	3
7	5	1	Sept. 1	27	13	27	24	14	22	22	3
8	6	− 1	2	28	−13	28	25	−14	23	23	− 3
9	7	1	3	Mar. 1	13	29	26	14	24	24	2
10	8	2	4	2	13	30	27	14	25	25	2
11	9	2	5	3	13	31	28	14	26	26	2
12	10	2	6	4	14	Nov. 1	29	14	27	27	2
13	11	− 3	7	5	−14	2	30	−14	28	28	− 1
14	12	3	8	6	14	3	May 1	13	29	29	1
15	13	3	9	7	14	4	2	13	30	30	1
16	14	3	10	8	14	5	3	13	31	July 1	− 1
17	15	4	11	9	14	6	4	13	32	2	0
18	15	− 4	12	10	−14	7	5	−13			

TABLE VI.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 1	9 25	9 20	9 15	9 9	9 6	9 2	8 57	8 52	8 50	8 47	8 44	8 40	8 36
2	10 6	10 4	10 3	10 2	10 1	10 0	9 59	9 57	9 57	9 56	9 55	9 55	9 54
3	10 46	10 48	10 51	10 54	10 56	10 57	11 0	11 2	11 4	11 5	11 6	11 8	11 10
4	11 27	11 33	11 39	11 47	11 51	11 56	12 1	12 8	12 11	12 15	12 18	12 22	12 27
5	12 9	12 19	12 29	12 40	12 47	12 55	13 4	13 15	13 20	13 25	13 32	13 39	13 47
6	12 54	13 7	13 21	13 36	13 45	13 56	14 8	14 23	14 30	14 38	14 47	14 57	15 8
7	13 43	13 58	14 15	14 34	14 45	14 58	15 13	15 32	15 41	15 51	16 3	16 16	16 31
8	14 35	14 52	15 11	15 33	15 46	16 1	16 18	16 41	16 51	17 3	17 17	17 33	17 52
9	15 30	15 49	16 9	16 33	16 46	17 1	17 21	17 45	17 56	18 9	18 24	18 42	19 3
10	16 29	16 47	17 7	17 30	17 44	17 59	18 18	18 41	18 52	19 4	19 19	19 36	19 56
11	17 28	17 45	18 3	18 24	18 36	18 50	19 6	19 27	19 36	19 47	19 59	20 14	20 30
12	18 26	18 40	18 55	19 12	19 22	19 34	19 47	20 3	20 11	20 19	20 29	20 39	20 52
13	19 22	19 32	19 44	19 56	20 4	20 12	20 21	20 33	20 38	20 44	20 50	20 58	21 6
14	20 16	20 22	20 29	20 36	20 40	20 46	20 51	20 58	21 1	21 4	21 8	21 12	21 17
15	21 8	21 10	21 12	21 14	21 15	21 16	21 18	21 20	21 21	21 22	21 23	21 24	21 25
16	21 59	21 57	21 54	21 50	21 48	21 46	21 44	21 41	21 40	21 38	21 37	21 35	21 33
17	22 50	22 44	22 36	22 27	22 22	22 17	22 10	22 3	22 0	21 56	21 52	21 47	21 42
18	23 42	23 31	23 19	23 6	22 58	22 49	22 39	22 27	22 22	22 15	22 8	22 1	21 52
19	....	....	....	23 48	23 37	23 26	23 12	22 56	22 48	22 39	22 30	22 19	22 7
20	0 35	0 20	0 5	....	....	....	23 51	23 30	23 21	23 10	22 58	22 44	22 28
21	1 29	1 12	0 54	0 33	0 21	0 7	....	....	....	23 51	23 37	23 20	23 1
22	2 24	2 6	1 46	1 23	1 10	0 54	0 36	0 14	0 3	....	....	....	23 50
23	3 19	3 0	2 40	2 17	2 4	1 48	1 30	1 6	0 55	0 43	0 28	0 11	....
24	4 13	3 55	3 36	3 14	3 1	2 47	2 29	2 7	1 57	1 45	1 31	1 16	0 57
25	5 4	4 48	4 31	4 12	4 1	3 48	3 32	3 13	3 4	2 54	2 43	2 30	2 14
26	5 52	5 39	5 25	5 10	5 0	4 50	4 37	4 22	4 15	4 7	3 58	3 48	3 36
27	6 38	6 28	6 18	6 6	5 59	5 51	5 42	5 30	5 25	5 20	5 13	5 6	4 58
28	7 21	7 15	7 8	7 0	6 56	6 51	6 45	6 38	6 35	6 31	6 27	6 22	6 18
29	8 2	8 0	7 57	7 53	7 52	7 49	7 47	7 44	7 43	7 41	7 39	7 38	7 36
30	8 43	8 44	8 45	8 46	8 46	8 47	8 48	8 49	8 50	8 50	8 51	8 52	8 52
31	9 24	9 28	9 33	9 38	9 41	9 45	9 49	9 54	9 57	9 59	10 2	10 5	10 9
Feb. 1	10 5	10 13	10 21	10 31	10 37	10 43	10 51	11 0	11 4	11 9	11 14	11 20	11 26
2	10 48	11 0	11 12	11 25	11 34	11 43	11 54	12 7	12 13	12 20	12 27	12 36	12 46
3	11 34	11 48	12 4	12 21	12 31	12 43	12 57	13 14	13 22	13 31	13 42	13 53	14 7
4	12 23	12 40	12 58	13 18	13 30	13 44	14 1	14 21	14 31	14 42	14 55	15 10	15 27
5	13 16	13 34	13 54	14 16	14 30	14 45	15 3	15 26	15 37	15 50	16 4	16 21	16 41
6	14 11	14 30	14 50	15 13	15 27	15 43	16 2	16 25	16 36	16 49	17 4	17 21	17 42
7	15 9	15 27	15 46	16 8	16 21	16 36	16 54	17 15	17 26	17 37	17 51	18 6	18 25
8	16 7	16 23	16 40	16 59	17 10	17 23	17 38	17 57	18 5	18 15	18 26	18 38	18 53
9	17 5	17 17	17 30	17 46	17 54	18 4	18 16	18 30	18 36	18 44	18 52	19 1	19 11
10	18 1	18 9	18 18	18 28	18 34	18 41	18 49	18 58	19 2	19 7	19 12	19 18	19 24
11	18 55	18 59	19 3	19 8	19 11	19 14	19 18	19 22	19 24	19 26	19 29	19 31	19 34
12	19 49	19 48	19 47	19 46	19 46	19 46	19 45	19 44	19 44	19 44	19 43	19 43	19 43
13	20 42	20 37	20 31	20 25	20 21	20 17	20 12	20 7	20 4	20 2	19 59	19 55	19 52
14	21 35	21 26	21 16	21 4	20 58	20 50	20 42	20 31	20 26	20 21	20 16	20 9	20 2
15	22 29	22 16	22 2	21 46	21 37	21 26	21 14	20 59	20 52	20 44	20 36	20 26	20 16
16	23 24	23 8	22 51	22 32	22 20	22 7	21 51	21 33	21 24	21 14	21 3	20 50	20 35
17	....	....	23 43	23 21	23 8	22 53	22 35	22 14	22 3	21 51	21 38	21 22	21 4

OCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
an. 0	21 4	21 10	21 17	21 25	21 30	21 35	21 40	21 48	21 51	21 54	21 58	22 3	22 8
1	21 45	21 48	21 51	21 55	21 57	21 59	22 2	22 5	22 7	22 8	22 10	22 12	22 14
2	22 26	22 25	22 24	22 24	22 23	22 23	22 22	22 21	22 21	22 21	22 20	22 20	22 20
3	23 6	23 2	22 58	22 53	22 50	22 46	22 43	22 38	22 36	22 34	22 32	22 29	22 26
4	23 47	23 40	23 32	23 22	23 17	23 11	23 4	22 56	22 52	22 48	22 43	22 38	22 32
5	....	....	....	23 55	23 47	23 38	23 28	23 16	23 10	23 4	22 57	22 49	22 41
6	0 31	0 20	0 8	....	....	....	23 56	23 40	23 33	23 24	23 15	23 4	22 52
7	1 17	1 3	0 48	0 31	0 21	0 10	....	....	....	23 51	23 40	23 26	23 10
8	2 7	1 51	1 33	1 13	1 1	0 47	0 31	0 11	0 2	....	....	23 57	23 38
9	3 1	2 42	2 23	2 0	1 47	1 32	1 13	0 51	0 40	0 28	0 14	....	....
10	3 58	3 39	3 19	2 56	2 42	2 26	2 7	1 43	1 32	1 19	1 4	0 46	0 25
11	4 57	4 39	4 20	3 57	3 44	3 29	3 11	2 48	2 37	2 25	2 11	1 54	1 34
12	5 56	5 40	5 23	5 3	4 52	4 39	4 24	4 4	3 54	3 44	3 32	3 19	3 3
13	6 53	6 40	6 27	6 12	6 3	5 52	5 40	5 25	5 18	5 11	5 2	4 52	4 41
14	7 48	7 40	7 30	7 20	7 14	7 7	6 59	6 50	6 45	6 40	6 34	6 28	6 21
15	8 41	8 37	8 33	8 28	8 25	8 22	8 18	8 13	8 11	8 9	8 6	8 3	8 0
16	9 32	9 33	9 34	9 34	9 35	9 35	9 35	9 36	9 36	9 36	9 37	9 37	9 38
17	10 23	10 28	10 34	10 40	10 43	10 47	10 52	10 57	11 0	11 3	11 6	11 9	11 13
18	11 14	11 24	11 34	11 45	11 51	11 59	12 7	12 18	12 23	12 28	12 34	12 41	12 48
19	12 7	12 20	12 34	12 49	12 59	13 9	13 22	13 37	13 44	13 52	14 1	14 11	14 22
20	13 0	13 16	13 34	13 53	14 5	14 18	14 33	14 53	15 2	15 12	15 24	15 37	15 53
21	13 56	14 13	14 33	14 55	15 8	15 23	15 41	16 3	16 14	16 26	16 39	16 55	17 15
22	14 51	15 10	15 30	15 53	16 6	16 22	16 41	17 4	17 15	17 28	17 43	18 0	18 21
23	15 45	16 4	16 23	16 46	16 59	17 14	17 32	17 55	18 6	18 18	18 32	18 48	19 7
24	16 38	16 55	17 12	17 33	17 45	17 59	18 15	18 35	18 44	18 55	19 7	19 21	19 37
25	17 28	17 42	17 57	18 15	18 25	18 37	18 50	19 6	19 14	19 22	19 32	19 43	19 55
26	18 15	18 26	18 38	18 52	19 0	19 9	19 19	19 32	19 38	19 44	19 51	19 59	20 8
27	18 59	19 7	19 15	19 25	19 31	19 37	19 44	19 53	19 57	20 1	20 6	20 11	20 18
28	19 41	19 46	19 51	19 56	19 59	20 2	20 6	20 11	20 13	20 16	20 18	20 21	20 24
29	20 22	20 23	20 24	20 25	20 26	20 26	20 27	20 28	20 29	20 29	20 30	20 30	20 31
30	21 3	21 0	20 57	20 54	20 52	20 50	20 48	20 45	20 43	20 42	20 40	20 38	20 36
31	21 44	21 38	21 31	21 23	21 19	21 14	21 9	21 2	20 59	20 56	20 52	20 48	20 43
eb. 1	22 26	22 16	22 6	21 54	21 48	21 40	21 31	21 21	21 16	21 11	21 5	20 58	20 51
2	23 10	22 58	22 44	22 28	22 19	22 9	21 57	21 43	21 36	21 29	21 20	21 11	21 1
3	23 57	23 42	23 26	23 7	22 56	22 43	22 28	22 10	22 2	21 52	21 41	21 29	21 15
4	....	....	....	23 50	23 38	23 23	23 6	22 44	22 34	22 23	22 10	21 55	21 37
5	0 48	0 31	0 12	....	....	....	23 52	23 29	23 18	23 6	22 51	22 34	22 13
6	1 42	1 24	1 4	0 40	0 27	0 11	....	....	....	....	23 48	23 30	23 10
7	2 39	2 20	2 0	1 37	1 24	1 8	0 49	0 26	0 15	0 2	....	....	....
8	3 37	3 20	3 1	2 40	2 28	2 13	1 56	1 35	1 25	1 14	1 1	0 46	0 28
9	4 35	4 20	4 5	3 47	3 37	3 25	3 11	2 54	2 46	2 36	2 26	2 14	2 1
10	5 32	5 21	5 9	4 56	4 49	4 40	4 30	4 17	4 12	4 5	3 58	3 50	3 41
11	6 27	6 20	6 14	6 6	6 2	5 56	5 50	5 43	5 40	5 36	5 32	5 28	5 22
12	7 21	7 19	7 17	7 15	7 14	7 12	7 11	7 9	7 8	7 7	7 6	7 5	7 3
13	8 14	8 17	8 20	8 24	8 26	8 28	8 31	8 34	8 36	8 37	8 39	8 41	8 43
14	9 7	9 14	9 22	9 32	9 37	9 43	9 50	9 58	10 2	10 6	10 11	10 16	10 23
15	10 1	10 12	10 25	10 39	10 47	10 56	11 7	11 20	11 27	11 34	11 42	11 50	12 0
16	10 55	11 10	11 26	11 45	11 55	12 8	12 22	12 40	12 48	12 58	13 8	13 21	13 35

TABLE VI.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb. 16	23 24	23 8	22 51	22 32	22 20	22 7	21 51	21 33	21 24	21 14	21 3	20 50	20 35
17	....	....	23 43	23 21	23 8	22 53	22 35	22 14	22 3	21 51	21 38	21 22	21 4
18	0 20	0 2	....	....	....	23 45	23 26	23 4	22 52	22 40	22 26	22 9	21 49
19	1 15	0 57	0 37	0 14	0 0	....	....	....	23 51	23 39	23 25	23 9	22 49
20	2 9	1 51	1 32	1 10	0 56	0 42	0 24	0 1	....	....	....	....	....
21	3 1	2 44	2 27	2 6	1 55	1 41	1 25	1 5	0 56	0 45	0 33	0 19	0 2
22	3 49	3 35	3 20	3 3	2 54	2 42	2 29	2 12	2 5	1 56	1 46	1 35	1 22
23	4 35	4 24	4 13	3 59	3 52	3 43	3 33	3 20	3 14	3 8	3 0	2 52	2 43
24	5 19	5 11	5 3	4 54	4 49	4 43	4 36	4 27	4 23	4 19	4 14	4 9	4 3
25	6 1	5 57	5 52	5 47	5 45	5 42	5 38	5 33	5 31	5 29	5 27	5 24	5 21
26	6 41	6 41	6 40	6 40	6 40	6 39	6 39	6 39	6 38	6 38	6 38	6 38	6 38
27	7 22	7 25	7 28	7 32	7 35	7 37	7 40	7 44	7 46	7 47	7 49	7 52	7 54
28	8 3	8 10	8 17	8 25	8 30	8 35	8 42	8 49	8 52	8 56	9 1	9 6	9 11
Mar. 1	8 46	8 56	9 6	9 19	9 26	9 34	9 44	9 55	10 0	10 6	10 13	10 20	10 29
2	9 30	9 43	9 57	10 13	10 22	10 33	10 46	11 1	11 8	11 17	11 26	11 36	11 48
3	10 17	10 33	10 50	11 9	11 20	11 33	11 49	12 8	12 17	12 27	12 38	12 52	13 7
4	11 7	11 25	11 44	12 5	12 18	12 33	12 50	13 12	13 22	13 34	13 48	14 4	14 22
5	12 0	12 18	12 38	13 1	13 14	13 30	13 48	14 12	14 23	14 35	14 50	15 7	15 27
6	12 55	13 13	13 33	13 55	14 8	14 24	14 42	15 4	15 15	15 27	15 41	15 57	16 17
7	13 51	14 8	14 25	14 46	14 58	15 12	15 28	15 48	15 58	16 8	16 20	16 34	16 50
8	14 47	15 1	15 16	15 34	15 43	15 55	16 8	16 24	16 32	16 40	16 50	17 0	17 13
9	15 43	15 53	16 5	16 17	16 25	16 33	16 43	16 55	17 0	17 6	17 13	17 20	17 28
10	16 38	16 44	16 51	16 58	17 3	17 8	17 14	17 20	17 24	17 27	17 31	17 35	17 40
11	17 32	17 34	17 36	17 38	17 39	17 40	17 42	17 44	17 45	17 46	17 47	17 48	17 50
12	18 26	18 23	18 20	18 17	18 15	18 13	18 10	18 7	18 6	18 5	18 3	18 1	17 59
13	19 21	19 13	19 6	18 57	18 52	18 46	18 40	18 32	18 28	18 24	18 20	18 15	18 10
14	20 16	20 5	19 53	19 39	19 31	19 22	19 12	18 59	18 53	18 47	18 40	18 32	18 23
15	21 14	20 59	20 43	20 25	20 14	20 2	19 48	19 31	19 23	19 14	19 5	18 54	18 40
16	22 11	21 54	21 36	21 15	21 2	20 48	20 32	20 11	20 1	19 50	19 38	19 24	19 7
17	23 8	22 50	22 30	22 8	21 55	21 39	21 21	20 59	20 48	20 36	20 22	20 6	19 47
18	....	23 46	23 26	23 4	22 51	22 36	22 18	21 55	21 45	21 33	21 18	21 2	20 43
19	0 4	....	....	....	23 49	23 36	23 19	22 58	22 49	22 38	22 25	22 11	21 54
20	0 57	0 40	0 22	0 1	....	....	....	....	23 57	23 48	23 37	23 25	23 12
21	1 47	1 32	1 16	0 59	0 48	0 36	0 22	0 5	....	....	....	....	....
22	2 34	2 22	2 9	1 55	1 46	1 37	1 26	1 12	1 6	0 59	0 51	0 42	0 32
23	3 18	3 9	3 0	2 50	2 43	2 37	2 29	2 19	2 14	2 10	2 4	1 58	1 51
24	4 0	3 55	3 49	3 43	3 39	3 35	3 30	3 25	3 22	3 19	3 16	3 13	3 8
25	4 41	4 39	4 37	4 36	4 34	4 33	4 32	4 30	4 29	4 28	4 28	4 26	4 25
26	5 21	5 23	5 25	5 28	5 29	5 31	5 32	5 35	5 36	5 37	5 38	5 40	5 41
27	6 2	6 8	6 14	6 20	6 24	6 28	6 34	6 40	6 43	6 46	6 50	6 53	6 58
28	6 44	6 53	7 3	7 14	7 20	7 27	7 36	7 46	7 50	7 56	8 2	8 8	8 16
29	7 28	7 40	7 53	8 8	8 17	8 26	8 38	8 52	8 59	9 6	9 14	9 24	9 34
30	8 15	8 29	8 45	9 3	9 14	9 26	9 40	9 58	10 7	10 16	10 27	10 39	10 53
31	9 3	9 20	9 38	9 59	10 11	10 25	10 42	11 3	11 13	11 24	11 36	11 51	12 9
Apr. 1	9 55	10 13	10 32	10 54	11 8	11 23	11 41	12 3	12 14	12 26	12 40	12 56	13 16
2	10 48	11 6	11 26	11 48	12 1	12 16	12 35	12 57	13 8	13 20	13 34	13 51	14 10
3	11 42	11 59	12 18	12 39	12 51	13 5	13 22	13 43	13 53	14 4	14 16	14 31	14 48

CAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; reater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one he day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Lat. / a.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
). 16	10 55	11 10	11 26	11 45	11 55	12 8	12 22	12 40	12 48	12 58	13 8	13 21	13 35
17	11 51	12 8	12 27	12 48	13 1	13 15	13 32	13 54	14 4	14 15	14 28	14 43	15 2
18	12 47	13 5	13 25	13 48	14 1	14 17	14 35	14 58	15 9	15 22	15 36	15 53	16 13
19	13 42	14 0	14 20	14 42	14 56	15 11	15 29	15 52	16 3	16 15	16 29	16 46	17 5
20	14 34	14 52	15 10	15 31	15 44	15 58	16 14	16 35	16 45	16 56	17 8	17 23	17 40
21	15 25	15 40	15 56	16 14	16 25	16 37	16 52	17 9	17 17	17 26	17 37	17 48	18 2
22	16 12	16 24	16 37	16 52	17 1	17 11	17 22	17 36	17 43	17 50	17 58	18 7	18 17
23	16 57	17 7	17 16	17 26	17 33	17 40	17 49	17 58	18 3	18 8	18 14	18 20	18 27
24	17 39	17 45	17 51	17 58	18 2	18 7	18 12	18 18	18 21	18 24	18 27	18 31	18 35
25	18 21	18 23	18 25	18 28	18 29	18 31	18 33	18 35	18 36	18 37	18 39	18 40	18 42
26	19 1	19 0	18 58	18 57	18 56	18 55	18 54	18 52	18 51	18 51	18 50	18 49	18 48
27	19 42	19 37	19 32	19 26	19 23	19 19	19 14	19 9	19 7	19 4	19 1	18 58	18 55
28	20 24	20 15	20 7	19 57	19 51	19 44	19 37	19 28	19 23	19 19	19 14	19 8	19 2
ır. 1	21 7	20 56	20 43	20 30	20 21	20 12	20 1	19 49	19 43	19 36	19 29	19 20	19 11
2	21 53	21 38	21 23	21 6	20 55	20 44	20 30	20 14	20 6	19 57	19 48	19 37	19 24
3	22 41	22 24	22 7	21 46	21 34	21 21	21 5	20 45	20 36	20 25	20 13	20 0	19 44
4	23 32	23 14	22 55	22 32	22 20	22 4	21 46	21 24	21 14	21 2	20 48	20 32	20 12
5	....	....	23 48	23 25	23 11	22 56	22 37	22 14	22 3	21 50	21 36	21 19	20 58
6	0 26	0 8	....	....	....	23 55	23 38	23 16	23 5	22 53	22 39	22 23	22 4
7	1 22	1 4	0 45	0 23	0 10	....	....	....	....	....	23 56	23 43	23 27
8	2 18	2 2	1 45	1 26	1 15	1 2	0 46	0 27	0 18	0 8	....	....	....
9	3 14	3 1	2 48	2 32	2 23	2 13	2 1	1 46	1 39	1 31	1 22	1 12	1 1
10	4 9	4 0	3 51	3 40	3 34	3 27	3 19	3 9	3 4	2 59	2 54	2 47	2 40
11	5 3	4 59	4 54	4 49	4 46	4 43	4 39	4 34	4 32	4 29	4 27	4 24	4 20
12	5 57	5 58	5 58	5 59	5 59	5 59	6 0	6 0	6 0	6 1	6 1	6 1	6 1
13	6 52	6 57	7 2	7 9	7 12	7 16	7 21	7 26	7 29	7 32	7 35	7 39	7 43
14	7 47	7 56	8 7	8 18	8 25	8 33	8 41	8 52	8 58	9 3	9 9	9 16	9 24
15	8 43	8 57	9 11	9 28	9 37	9 48	10 1	10 16	10 24	10 32	10 42	10 52	11 4
16	9 41	9 57	10 15	10 35	10 46	11 0	11 16	11 36	11 45	11 56	12 8	12 22	12 38
17	10 39	10 57	11 16	11 38	11 51	12 6	12 24	12 46	12 57	13 9	13 23	13 39	13 58
18	11 35	11 54	12 14	12 36	12 50	13 5	13 23	13 46	13 56	14 9	14 23	14 39	14 59
19	12 30	12 47	13 6	13 28	13 40	13 55	14 12	14 33	14 43	14 54	15 8	15 22	15 40
20	13 21	13 37	13 54	14 13	14 24	14 37	14 52	15 10	15 19	15 28	15 39	15 52	16 6
21	14 10	14 23	14 37	14 53	15 2	15 13	15 25	15 40	15 46	15 54	16 3	16 12	16 23
22	14 55	15 5	15 16	15 28	15 35	15 43	15 52	16 4	16 9	16 14	16 20	16 28	16 35
23	15 38	15 45	15 52	16 0	16 5	16 10	16 17	16 24	16 27	16 31	16 35	16 39	16 44
24	16 20	16 23	16 27	16 31	16 33	16 35	16 38	16 42	16 44	16 46	16 47	16 50	16 52
25	17 0	17 0	17 0	17 0	17 0	17 0	16 59	16 59	16 59	16 59	16 58	16 58	16 58
26	17 41	17 37	17 33	17 29	17 26	17 24	17 20	17 16	17 14	17 12	17 10	17 8	17 5
27	18 23	18 16	18 8	17 59	17 54	17 49	17 42	17 34	17 31	17 27	17 23	17 18	17 12
28	19 6	18 55	18 44	18 32	18 24	18 16	18 6	17 55	17 50	17 44	17 37	17 30	17 22
29	19 50	19 37	19 23	19 7	18 57	18 47	18 34	18 19	18 12	18 4	17 55	17 45	17 34
30	20 38	20 22	20 6	19 46	19 35	19 22	19 7	18 48	18 40	18 30	18 19	18 6	17 51
31	21 28	21 11	20 52	20 30	20 18	20 3	19 46	19 25	19 14	19 3	18 50	18 35	18 17
ır. 1	22 20	22 2	21 42	21 20	21 6	20 51	20 33	20 10	19 59	19 47	19 33	19 16	18 56
2	23 14	22 56	22 37	22 15	22 2	21 47	21 29	21 7	20 56	20 44	20 30	20 14	19 54
3	....	23 52	23 34	23 14	23 2	22 48	22 32	22 12	22 2	21 52	21 40	21 25	21 9

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH 1918.

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For other longitudes and for southern latitudes see page 78.

Date.		Lat. 0°	+16°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h
Apr.	1	9 55	10 13	10 32	10 54	11 8	11 23	11 41	12 3	12 14	12 26	12 40	12 56	13
	2	10 48	11 6	11 26	11 48	12 1	12 16	12 35	12 57	13 8	13 20	13 34	13 51	14
	3	11 42	11 59	12 18	12 39	12 51	13 5	13 22	13 43	13 53	14 4	14 16	14 31	14
	4	12 36	12 51	13 7	13 26	13 37	13 49	14 3	14 21	14 29	14 39	14 49	15 1	15
	5	13 30	13 42	13 55	14 10	14 18	14 28	14 39	14 52	14 59	15 6	15 13	15 22	15
	6	14 23	14 32	14 40	14 50	14 56	15 3	15 10	15 19	15 24	15 28	15 33	15 39	15
	7	15 16	15 20	15 24	15 29	15 32	15 35	15 39	15 43	15 45	15 48	15 50	15 53	15
	8	16 9	16 8	16 8	16 8	16 7	16 7	16 7	16 6	16 6	16 6	16 6	16 5	16
	9	17 3	16 58	16 53	16 47	16 43	16 40	16 35	16 30	16 28	16 25	16 22	16 19	16
	10	17 58	17 49	17 39	17 28	17 22	17 14	17 6	16 56	16 52	16 46	16 41	16 35	16
	11	18 56	18 43	18 29	18 13	18 4	17 53	17 41	17 26	17 20	17 12	17 4	16 54	16
	12	19 55	19 39	19 22	19 2	18 51	18 38	18 22	18 4	17 55	17 45	17 34	17 21	17
	13	20 54	20 36	20 18	19 56	19 43	19 28	19 11	18 50	18 39	18 28	18 15	18 0	17
	14	21 53	21 35	21 15	20 53	20 40	20 25	20 7	19 44	19 34	19 22	19 8	18 52	18
	15	22 49	22 31	22 13	21 52	21 39	21 25	21 8	20 47	20 37	20 26	20 13	19 58	19
	16	23 41	23 26	23 9	22 50	22 40	22 27	22 12	21 54	21 45	21 35	21 24	21 12	20
	17	....	....	....	23 48	23 39	23 29	23 17	23 2	22 55	22 48	22 39	22 29	22
	18	0 30	0 17	0 3	....	....	....	....	....	....	23 59	23 53	23 46	23
	19	1 15	1 6	0 55	0 44	0 37	0 30	0 21	0 10	0 5	....	....	....	...
	20	1 58	1 52	1 45	1 38	1 33	1 29	1 23	1 16	1 13	1 10	1 6	1 1	0
	21	2 39	2 37	2 34	2 30	2 29	2 26	2 24	2 21	2 20	2 18	2 17	2 15	2
	22	3 20	3 21	3 22	3 23	3 23	3 24	3 25	3 26	3 26	3 27	3 27	3 28	3
	23	4 1	4 5	4 10	4 15	4 18	4 22	4 26	4 30	4 33	4 35	4 38	4 41	4
	24	4 42	4 50	4 58	5 8	5 14	5 20	5 27	5 36	5 40	5 45	5 50	5 55	6
	25	5 26	5 37	5 49	6 2	6 10	6 19	6 30	6 42	6 48	6 55	7 2	7 11	7
	26	6 12	6 26	6 41	6 58	7 8	7 19	7 33	7 49	7 57	8 6	8 15	8 27	8
	27	7 0	7 17	7 34	7 54	8 6	8 19	8 35	8 55	9 4	9 15	9 27	9 41	9
	28	7 51	8 9	8 28	8 50	9 3	9 17	9 35	9 57	10 7	10 19	10 33	10 49	11
	29	8 44	9 2	9 22	9 44	9 57	10 12	10 30	10 53	11 4	11 16	11 30	11 46	12
	30	9 38	9 55	10 14	10 36	10 48	11 3	11 20	11 41	11 51	12 2	12 15	12 30	12
May	1	10 32	10 47	11 4	11 23	11 34	11 47	12 2	12 21	12 30	12 39	12 50	13 3	13
	2	11 24	11 37	11 51	12 7	12 16	12 27	12 39	12 54	13 0	13 8	13 17	13 26	13
	3	12 16	12 26	12 36	12 47	12 54	13 2	13 10	13 21	13 26	13 31	13 37	13 44	13
	4	13 7	13 13	13 19	13 26	13 29	13 34	13 39	13 45	13 48	13 51	13 55	13 58	14
	5	13 58	14 0	14 1	14 3	14 4	14 5	14 6	14 8	14 9	14 9	14 10	14 11	14
	6	14 50	14 46	14 44	14 40	14 38	14 36	14 33	14 30	14 29	14 27	14 26	14 24	14
	7	15 43	15 36	15 28	15 19	15 14	15 8	15 2	14 54	14 51	14 47	14 43	14 38	14
	8	16 38	16 27	16 15	16 2	15 54	15 45	15 34	15 22	15 16	15 10	15 3	14 55	14
	9	17 36	17 22	17 6	16 48	16 38	16 26	16 12	15 55	15 48	15 39	15 29	15 18	15
	10	18 36	18 19	18 1	17 40	17 28	17 14	16 57	16 37	16 28	16 17	16 5	15 51	15
	11	19 36	19 18	18 59	18 36	18 23	18 8	17 51	17 29	17 18	17 6	16 53	16 37	16
	12	20 34	20 17	19 58	19 36	19 23	19 9	18 51	18 29	18 19	18 7	17 54	17 38	17
	13	21 30	21 14	20 57	20 37	20 25	20 12	19 56	19 36	19 27	19 17	19 5	18 51	18
	14	22 22	22 8	21 53	21 36	21 27	21 16	21 2	20 46	20 39	20 30	20 21	20 10	19
	15	23 9	22 58	22 47	22 34	22 27	22 18	22 8	21 56	21 50	21 44	21 37	21 29	21
	16	23 54	23 47	23 39	23 30	23 25	23 19	23 12	23 4	23 0	22 56	22 51	22 46	22
	17	....	....	....	....	....	....	....	....	....	....	....	....	23
	18	0 36	0 32	0 28	0 23	0 21	0 18	0 14	0 10	0 8	0 6	0 4	0 1	..

)CAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

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Lat. / ite.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
r. 1	22 20	22 2	21 42	21 20	21 6	20 51	20 33	20 10	19 59	19 47	19 33	19 16	18 56
2	23 14	22 56	22 37	22 15	22 2	21 47	21 29	21 7	20 56	20 44	20 30	20 14	19 54
3	....	23 52	23 34	23 14	23 2	22 48	22 32	22 12	22 2	21 52	21 40	21 25	21 9
4	0 8	....	....	....	....	23 55	23 42	23 25	23 18	23 9	22 59	22 48	22 35
5	1 2	0 48	0 34	0 16	0 7	....	....	....	....	....	....	....	....
6	1 56	1 45	1 34	1 21	1 14	1 6	0 56	0 43	0 38	0 32	0 25	0 17	0 8
7	2 48	2 42	2 35	2 27	2 23	2 18	2 12	2 5	2 1	1 58	1 54	1 49	1 44
8	3 41	3 39	3 37	3 35	3 33	3 32	3 30	3 28	3 27	3 26	3 25	3 23	3 22
9	4 34	4 37	4 40	4 43	4 45	4 47	4 49	4 52	4 53	4 55	4 57	4 58	5 0
10	5 29	5 36	5 44	5 52	5 58	6 3	6 10	6 18	6 22	6 26	6 31	6 36	6 42
11	6 25	6 37	6 49	7 3	7 11	7 20	7 31	7 44	7 50	7 57	8 5	8 13	8 23
12	7 24	7 38	7 54	8 13	8 23	8 35	8 50	9 7	9 16	9 25	9 36	9 48	10 2
13	8 23	8 40	8 59	9 20	9 32	9 47	10 4	10 25	10 35	10 46	10 59	11 14	11 32
14	9 23	9 41	10 0	10 23	10 36	10 51	11 9	11 31	11 42	11 54	12 8	12 24	12 44
15	10 20	10 38	10 57	11 19	11 32	11 46	12 4	12 26	12 36	12 47	13 1	13 16	13 34
16	11 14	11 31	11 48	12 8	12 20	12 33	12 49	13 8	13 17	13 27	13 38	13 52	14 7
17	12 5	12 19	12 34	12 50	13 0	13 12	13 25	13 41	13 48	13 56	14 6	14 16	14 28
18	12 52	13 3	13 15	13 28	13 36	13 44	13 55	14 7	14 12	14 18	14 25	14 33	14 42
19	13 36	13 44	13 52	14 2	14 7	14 13	14 20	14 28	14 32	14 36	14 41	14 46	14 52
20	14 18	14 23	14 27	14 32	14 35	14 39	14 43	14 47	14 50	14 52	14 54	14 57	15 0
21	14 59	15 0	15 1	15 2	15 3	15 3	15 4	15 5	15 6	15 6	15 6	15 7	15 8
22	15 40	15 37	15 34	15 31	15 30	15 27	15 25	15 22	15 21	15 20	15 18	15 16	15 14
23	16 21	16 15	16 8	16 1	15 57	15 52	15 47	15 40	15 37	15 34	15 30	15 26	15 22
24	17 4	16 54	16 44	16 33	16 27	16 19	16 11	16 0	15 55	15 50	15 45	15 38	15 31
25	17 48	17 36	17 23	17 8	16 59	16 49	16 37	16 23	16 17	16 10	16 1	15 52	15 42
26	18 35	18 20	18 4	17 46	17 35	17 23	17 9	16 51	16 43	16 34	16 24	16 12	15 59
27	19 25	19 8	18 50	18 29	18 17	18 3	17 46	17 26	17 16	17 5	16 53	16 39	16 22
28	20 17	19 59	19 40	19 17	19 4	18 49	18 31	18 9	17 59	17 47	17 33	17 17	16 58
29	21 10	20 52	20 33	20 11	19 58	19 43	19 25	19 2	18 52	18 40	18 26	18 9	17 50
30	22 4	21 47	21 29	21 8	20 56	20 42	20 26	20 5	19 55	19 44	19 31	19 17	18 59
y 1	22 57	22 42	22 27	22 9	21 58	21 46	21 32	21 15	21 6	20 57	20 47	20 35	20 21
2	23 49	23 38	23 26	23 12	23 3	22 54	22 43	22 30	22 23	22 16	22 8	21 59	21 50
3	....	....	....	....	....	....	23 56	23 47	23 43	23 39	23 33	23 28	23 21
4	0 40	0 33	0 25	0 15	0 10	0 3	....	....	....	....	....	....	....
5	1 31	1 28	1 24	1 19	1 17	1 14	1 10	1 6	1 4	1 2	1 0	0 57	0 54
6	2 22	2 23	2 24	2 25	2 25	2 26	2 26	2 27	2 27	2 28	2 28	2 28	2 29
7	3 14	3 20	3 25	3 31	3 35	3 39	3 44	3 49	3 52	3 55	3 58	4 2	4 6
8	4 9	4 18	4 28	4 40	4 46	4 54	5 2	5 13	5 18	5 24	5 30	5 36	5 44
9	5 5	5 19	5 33	5 49	5 58	6 9	6 21	6 37	6 44	6 52	7 1	7 12	7 24
10	6 4	6 20	6 38	6 58	7 9	7 22	7 38	7 58	8 7	8 18	8 29	8 43	8 59
11	7 5	7 22	7 42	8 3	8 16	8 31	8 49	9 10	9 21	9 33	9 46	10 2	10 21
12	8 4	8 22	8 42	9 4	9 17	9 32	9 50	10 12	10 22	10 34	10 48	11 4	11 22
13	9 2	9 19	9 37	9 58	10 10	10 24	10 40	11 1	11 10	11 21	11 33	11 47	12 4
14	9 55	10 10	10 26	10 44	10 55	11 7	11 21	11 38	11 46	11 55	12 5	12 17	12 30
15	10 45	10 57	11 10	11 25	11 33	11 43	11 54	12 8	12 14	12 21	12 29	12 37	12 47
16	11 31	11 40	11 50	12 0	12 7	12 14	12 22	12 32	12 36	12 41	12 46	12 53	12 59
17	12 15	12 20	12 26	12 33	12 37	12 41	12 46	12 52	12 54	12 58	13 1	13 4	13 8
18	12 56	12 58	13 1	13 3	13 4	13 6	13 8	13 10	13 11	13 12	13 13	13 15	13 16

TABLE VI.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May 17	....	....	....	....	....	....	....	....	....	....	....	....	23 56
18	0 36	0 32	0 28	0 23	0 21	0 18	0 14	0 10	0 8	0 6	0 4	0 1	....
19	1 17	1 17	1 16	1 16	1 16	1 15	1 15	1 15	1 14	1 14	1 14	1 14	1 14
20	1 58	2 1	2 4	2 8	2 10	2 13	2 16	2 20	2 21	2 23	2 25	2 27	2 30
21	2 39	2 46	2 53	3 1	3 6	3 11	3 17	3 24	3 28	3 32	3 36	3 41	3 46
22	3 22	3 32	3 43	3 55	4 2	4 10	4 19	4 31	4 36	4 42	4 48	4 56	5 6
23	4 7	4 20	4 34	4 50	4 59	5 10	5 22	5 37	5 44	5 52	6 1	6 11	6 23
24	4 55	5 11	5 27	5 46	5 57	6 10	6 25	6 44	6 53	7 3	7 14	7 27	7 43
25	5 46	6 3	6 22	6 43	6 55	7 10	7 27	7 48	7 58	8 10	8 23	8 38	8 56
26	6 39	6 57	7 16	7 38	7 52	8 7	8 25	8 47	8 58	9 10	9 24	9 40	10 0
27	7 33	7 51	8 10	8 32	8 45	8 59	9 17	9 38	9 49	10 0	10 14	10 29	10 48
28	8 28	8 44	9 1	9 21	9 33	9 46	10 2	10 21	10 30	10 41	10 52	11 5	11 21
29	9 21	9 35	9 50	10 6	10 16	10 27	10 40	10 56	11 4	11 12	11 21	11 31	11 43
30	10 13	10 24	10 35	10 48	10 55	11 4	11 13	11 25	11 31	11 36	11 43	11 50	11 59
31	11 4	11 11	11 18	11 26	11 31	11 36	11 42	11 50	11 53	11 57	12 1	12 5	12 10
June 1	11 54	11 56	11 59	12 3	12 5	12 7	12 9	12 12	12 14	12 15	12 17	12 18	12 20
2	12 44	12 42	12 40	12 39	12 38	12 37	12 36	12 34	12 34	12 33	12 32	12 31	12 30
3	13 34	13 29	13 23	13 16	13 12	13 8	13 3	12 57	12 54	12 51	12 48	12 44	12 40
4	14 27	14 18	14 7	13 55	13 49	13 41	13 32	13 22	13 17	13 12	13 6	12 59	12 53
5	15 22	15 9	14 55	14 39	14 30	14 19	14 7	13 52	13 45	13 37	13 28	13 19	13 8
6	16 20	16 4	15 47	15 27	15 16	15 3	14 47	14 28	14 20	14 10	13 58	13 46	13 31
7	17 19	17 2	16 43	16 21	16 8	15 54	15 36	15 15	15 4	14 53	14 40	14 25	14 7
8	18 19	18 1	17 42	17 19	17 6	16 51	16 33	16 11	16 1	15 49	15 35	15 19	15 0
9	19 16	18 59	18 41	18 20	18 8	17 54	17 37	17 16	17 6	16 55	16 42	16 28	16 10
10	20 10	19 55	19 39	19 21	19 10	18 58	18 44	18 26	18 18	18 8	17 58	17 46	17 32
11	21 0	20 48	20 35	20 21	20 12	20 3	19 51	19 37	19 31	19 23	19 15	19 6	18 56
12	21 47	21 38	21 29	21 18	21 12	21 5	20 57	20 47	20 43	20 37	20 32	20 26	20 18
13	22 31	22 26	22 20	22 13	22 10	22 6	22 1	21 55	21 52	21 49	21 46	21 42	21 38
14	23 13	23 11	23 9	23 7	23 6	23 5	23 3	23 1	23 0	22 59	22 58	22 57	22 56
15	23 54	23 56	23 58	....	....	....	....	....	....	....	....	....	....
16	....	....	....	0 0	0 1	0 2	0 4	0 6	0 7	0 8	0 9	0 11	0 13
17	0 35	0 40	0 46	0 52	0 56	1 0	1 5	1 11	1 14	1 17	1 20	1 24	1 29
18	1 17	1 26	1 35	1 45	1 51	1 58	2 6	2 16	2 21	2 26	2 32	2 38	2 46
19	2 1	2 13	2 25	2 40	2 48	2 57	3 9	3 23	3 29	3 36	3 44	3 53	4 3
20	2 48	3 2	3 18	3 35	3 46	3 58	4 12	4 30	4 38	4 47	4 57	5 9	5 23
21	3 37	3 54	4 12	4 32	4 44	4 58	5 15	5 35	5 45	5 56	6 8	6 23	6 40
22	4 30	4 48	5 7	5 29	5 42	5 57	6 15	6 37	6 47	7 0	7 14	7 30	7 49
23	5 24	5 42	6 1	6 24	6 37	6 52	7 10	7 32	7 43	7 55	8 8	8 24	8 44
24	6 20	6 36	6 55	7 16	7 28	7 42	8 19	8 28	8 39	8 52	9 6	9 22	9 42
25	7 15	7 30	7 45	8 3	8 14	8 26	8 40	8 57	9 5	9 14	9 24	9 36	9 49
26	8 9	8 20	8 33	8 47	8 55	9 4	9 15	9 28	9 35	9 41	9 49	9 57	10 7
27	9 1	9 9	9 17	9 27	9 32	9 39	9 46	9 55	9 59	10 4	10 8	10 14	10 20
28	9 51	9 55	10 0	10 4	10 7	10 10	10 14	10 18	10 20	10 23	10 25	10 28	10 30
29	10 41	10 41	10 41	10 41	10 41	10 41	10 40	10 40	10 40	10 40	10 40	10 40	10 40
30	11 31	11 27	11 22	11 17	11 14	11 11	11 7	11 2	11 0	10 58	10 55	10 53	10 49
July 1	12 23	12 14	12 5	11 55	11 49	11 43	11 35	11 26	11 22	11 17	11 12	11 7	11 0
2	13 16	13 4	12 51	12 36	12 28	12 18	12 7	11 54	11 47	11 41	11 33	11 24	11 13

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

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For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May 17	12 15	12 20	12 26	12 33	12 37	12 41	12 46	12 52	12 54	12 58	13 1	13 4	13 8
18	12 56	12 58	13 1	13 3	13 4	13 6	13 8	13 10	13 11	13 12	13 13	13 15	13 16
19	13 37	13 36	13 34	13 32	13 31	13 30	13 29	13 27	13 26	13 26	13 25	13 24	13 23
20	14 18	14 13	14 8	14 2	13 59	13 55	13 50	13 45	13 43	13 40	13 37	13 34	13 31
21	15 0	14 52	14 43	14 33	14 28	14 21	14 13	14 4	14 0	13 56	13 51	13 45	13 39
22	15 44	15 32	15 20	15 7	14 59	14 50	14 39	14 26	14 20	14 14	14 7	13 59	13 50
23	16 30	16 16	16 1	15 44	15 34	15 22	15 9	14 53	14 45	14 36	14 27	14 16	14 4
24	17 19	17 3	16 46	16 26	16 14	16 0	15 45	15 25	15 16	15 6	14 54	14 40	14 25
25	18 11	17 54	17 34	17 13	17 0	16 45	16 28	16 6	15 56	15 44	15 30	15 15	14 56
26	19 5	18 47	18 28	18 5	17 52	17 37	17 19	16 56	16 46	16 34	16 20	16 3	15 44
27	19 59	19 42	19 24	19 2	18 50	18 36	18 18	17 57	17 47	17 35	17 22	17 7	16 49
28	20 54	20 38	20 22	20 3	19 52	19 39	19 24	19 6	18 57	18 47	18 36	18 23	18 8
29	21 46	21 34	21 21	21 6	20 56	20 46	20 34	20 20	20 13	20 6	19 57	19 47	19 36
30	22 38	22 29	22 19	22 8	22 2	21 55	21 47	21 36	21 32	21 26	21 21	21 14	21 7
31	23 28	23 23	23 18	23 12	23 8	23 4	23 0	22 54	22 52	22 49	22 46	22 42	22 38
June 1	....	....	....	....	....	....	....	....	....	....	....	....	....
2	0 17	0 17	0 16	0 15	0 15	0 14	0 13	0 12	0 12	0 12	0 11	0 10	0 10
3	1 8	1 11	1 15	1 19	1 22	1 24	1 28	1 32	1 33	1 36	1 38	1 40	1 43
4	1 59	2 7	2 15	2 25	2 30	2 36	2 44	2 52	2 57	3 1	3 6	3 12	3 18
5	2 53	3 5	3 17	3 32	3 40	3 49	4 0	4 14	4 20	4 27	4 35	4 44	4 54
6	3 50	4 4	4 20	4 39	4 49	5 2	5 16	5 34	5 42	5 52	6 3	6 15	6 29
7	4 48	5 5	5 24	5 45	5 57	6 11	6 28	6 50	6 59	7 11	7 24	7 38	7 56
8	5 48	6 6	6 25	6 48	7 1	7 16	7 34	7 56	8 7	8 19	8 32	8 48	9 8
9	6 46	7 4	7 23	7 45	7 58	8 12	8 29	8 51	9 1	9 12	9 25	9 40	9 58
10	7 42	7 58	8 15	8 35	8 46	8 59	9 15	9 34	9 42	9 52	10 3	10 16	10 31
11	8 35	8 48	9 2	9 19	9 28	9 39	9 52	10 7	10 14	10 22	10 31	10 40	10 52
12	9 23	9 34	9 44	9 57	10 4	10 13	10 22	10 33	10 39	10 44	10 50	10 58	11 6
13	10 9	10 16	10 23	10 31	10 36	10 42	10 48	10 55	10 59	11 2	11 7	11 11	11 16
14	10 52	10 55	10 59	11 3	11 5	11 8	11 11	11 15	11 16	11 18	11 20	11 22	11 25
15	11 33	11 33	11 33	11 33	11 33	11 33	11 32	11 32	11 32	11 32	11 32	11 32	11 32
16	12 14	12 10	12 6	12 2	12 0	11 57	11 54	11 50	11 48	11 46	11 44	11 42	11 40
17	12 55	12 48	12 41	12 33	12 28	12 22	12 16	12 8	12 5	12 1	11 57	11 52	11 47
18	13 38	13 28	13 17	13 5	12 58	12 50	12 41	12 30	12 24	12 18	12 12	12 5	11 57
19	14 23	14 10	13 56	13 40	13 31	13 21	13 8	12 53	12 47	12 39	12 30	12 21	12 10
20	15 11	14 56	14 39	14 20	14 9	13 56	13 41	13 23	13 14	13 5	12 54	12 42	12 27
21	16 2	15 45	15 26	15 5	14 52	14 38	14 21	14 0	13 50	13 39	13 26	13 11	12 54
22	16 56	16 38	16 18	15 56	15 43	15 28	15 10	14 47	14 36	14 24	14 10	13 54	13 35
23	17 51	17 33	17 14	16 52	16 39	16 24	16 7	15 45	15 34	15 22	15 9	14 53	14 34
24	18 46	18 30	18 13	17 53	17 41	17 28	17 12	16 52	16 43	16 32	16 21	16 7	15 51
25	19 41	19 27	19 13	18 56	18 47	18 36	18 22	18 6	17 59	17 50	17 41	17 30	17 18
26	20 34	20 24	20 13	20 0	19 53	19 45	19 35	19 24	19 18	19 12	19 6	18 58	18 49
27	21 25	21 19	21 12	21 5	21 0	20 56	20 50	20 43	20 39	20 36	20 32	20 27	20 22
28	22 15	22 13	22 11	22 10	22 7	22 6	22 4	22 2	22 0	21 59	21 58	21 56	21 55
29	23 5	23 7	23 10	23 12	23 14	23 16	23 18	23 20	23 22	23 23	23 24	23 26	23 28
30	23 56	....	....	....	....	....	....	....	....	....	....	....	....
uly 1	....	0 2	0 9	0 17	0 21	0 27	0 33	0 40	0 43	0 47	0 51	0 56	1 1
2	0 48	0 58	1 9	1 22	1 29	1 38	1 48	1 59	2 5	2 11	2 18	2 26	2 35

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

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Date.	Lat. 0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July 1	12 23	12 14	12 5	11 55	11 49	11 43	11 35	11 26	11 22	11 17	11 12	11 7	11 0
2	13 16	13 4	12 51	12 36	12 28	12 18	12 7	11 54	11 47	11 41	11 33	11 24	11 13
3	14 11	13 56	13 40	13 22	13 11	12 58	12 44	12 27	12 18	12 10	11 59	11 48	11 34
4	15 8	14 51	14 33	14 12	14 0	13 45	13 29	13 8	12 58	12 47	12 35	12 20	12 4
5	16 7	15 49	15 29	15 7	14 54	14 39	14 21	13 59	13 48	13 36	13 23	13 7	12 48
6	17 4	16 46	16 28	16 6	15 53	15 38	15 21	15 0	14 49	14 38	14 24	14 9	13 52
7	17 59	17 43	17 26	17 6	16 55	16 42	16 26	16 7	15 58	15 48	15 36	15 23	15 7
8	18 51	18 37	18 23	18 7	17 57	17 46	17 33	17 18	17 10	17 2	16 53	16 42	16 30
9	19 39	19 29	19 18	19 6	18 58	18 50	18 40	18 29	18 23	18 17	18 10	18 3	17 54
10	20 25	20 18	20 10	20 2	19 58	19 52	19 46	19 38	19 35	19 31	19 26	19 22	19 16
11	21 8	21 4	21 1	20 57	20 55	20 52	20 49	20 46	20 44	20 42	20 40	20 38	20 36
12	21 49	21 50	21 50	21 50	21 50	21 51	21 51	21 52	21 52	21 52	21 52	21 53	21 55
13	22 30	22 34	22 38	22 43	22 46	22 49	22 52	22 56	22 59	23 1	23 3	23 6	23 9
14	23 12	23 19	23 27	23 36	23 41	23 47	23 54	....	....	....	....	....	....
15	23 55	....	....	....	....	....	....	0 2	0 6	0 10	0 14	0 20	0 28
16	....	0 5	0 16	0 29	0 36	0 45	0 55	1 7	1 13	1 19	1 26	1 34	1 45
17	0 40	0 53	1 8	1 24	1 33	1 44	1 57	2 13	2 21	2 29	2 38	2 49	3 1
18	1 28	1 43	2 0	2 20	2 31	2 44	2 59	3 18	3 28	3 38	3 49	4 3	4 18
19	2 18	2 36	2 54	3 16	3 28	3 43	4 0	4 22	4 32	4 44	4 57	5 12	5 31
20	3 12	3 30	3 49	4 11	4 24	4 40	4 58	5 20	5 31	5 43	5 57	6 13	6 33
21	4 7	4 24	4 43	5 5	5 18	5 32	5 50	6 11	6 21	6 33	6 46	7 1	7 19
22	5 3	5 19	5 36	5 55	6 6	6 20	6 35	6 54	7 2	7 12	7 23	7 36	7 51
23	5 58	6 11	6 25	6 41	6 51	7 1	7 14	7 28	7 35	7 43	7 52	8 1	8 12
24	6 52	7 2	7 12	7 24	7 31	7 38	7 47	7 57	8 2	8 8	8 14	8 20	8 28
25	7 45	7 50	7 56	8 3	8 7	8 12	8 17	8 23	8 25	8 28	8 32	8 35	8 40
26	8 37	8 38	8 40	8 41	8 42	8 43	8 44	8 46	8 47	8 47	8 48	8 49	8 50
27	9 28	9 25	9 22	9 18	9 16	9 14	9 11	9 8	9 7	9 6	9 4	9 2	9 0
28	10 20	10 13	10 5	9 56	9 52	9 46	9 40	9 32	9 29	9 25	9 20	9 16	9 11
29	11 12	11 2	10 50	10 37	10 29	10 20	10 10	9 58	9 53	9 47	9 40	9 33	9 26
30	12 7	11 53	11 38	11 21	11 11	10 59	10 46	10 30	10 22	10 14	10 4	9 54	9 42
31	13 3	12 47	12 29	12 9	11 57	11 43	11 27	11 8	10 59	10 48	10 36	10 23	10 7
Aug. 1	14 0	13 42	13 23	13 2	12 49	12 34	12 16	11 55	11 44	11 33	11 19	11 4	10 46
2	14 57	14 39	14 20	13 58	13 45	13 30	13 12	12 50	12 40	12 28	12 15	11 59	11 40
3	15 52	15 35	15 17	14 57	14 45	14 31	14 15	13 55	13 45	13 34	13 22	13 8	12 52
4	16 44	16 29	16 14	15 56	15 46	15 34	15 20	15 3	14 55	14 46	14 36	14 24	14 11
5	17 33	17 22	17 9	16 55	16 47	16 38	16 27	16 13	16 7	16 0	15 52	15 44	15 34
6	18 19	18 11	18 2	17 52	17 46	17 40	17 32	17 23	17 19	17 14	17 8	17 3	16 56
7	19 3	18 59	18 54	18 48	18 44	18 41	18 36	18 31	18 29	18 26	18 23	18 20	18 16
8	19 45	19 44	19 43	19 42	19 41	19 40	19 39	19 38	19 37	19 36	19 36	19 35	19 34
9	20 27	20 29	20 32	20 34	20 36	20 38	20 40	20 43	20 45	20 46	20 47	20 49	20 52
10	21 8	21 14	21 20	21 27	21 31	21 36	21 41	21 48	21 51	21 54	21 58	22 2	22 7
11	21 50	21 59	22 9	22 20	22 26	22 34	22 42	22 53	22 58	23 3	23 9	23 16	23 25
12	22 34	22 46	22 59	23 14	23 22	23 32	23 44	23 58	....	....	....	....	....
13	23 20	23 35	23 50	....	....	....	....	....	0 5	0 12	0 20	0 30	0 42
14	....	....	....	0 8	0 19	0 31	0 45	1 3	1 11	1 21	1 31	1 43	1 58
15	0 8	0 25	0 43	1 3	1 15	1 29	1 46	2 6	2 16	2 27	2 39	2 54	3 13
16	1 0	1 17	1 36	1 58	2 11	2 26	2 44	3 6	3 16	3 28	3 42	3 58	4 18

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

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Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July 1	....	0 2	0 9	0 17	0 21	0 27	0 33	0 40	0 43	0 47	0 51	0 56	1 1
2	0 48	0 58	1 9	1 22	1 29	1 38	1 48	1 59	2 5	2 11	2 18	2 26	2 35
3	1 42	1 56	2 11	2 28	2 37	2 49	3 2	3 18	3 26	3 34	3 44	3 55	4 8
4	2 38	2 55	3 12	3 33	3 44	3 58	4 14	4 34	4 43	4 54	5 6	5 20	5 37
5	3 36	3 54	4 13	4 35	4 48	5 3	5 21	5 43	5 53	6 5	6 19	6 34	6 53
6	4 34	4 52	5 11	5 34	5 47	6 2	6 19	6 41	6 52	7 3	7 17	7 33	7 51
7	5 31	5 48	6 6	6 26	6 38	6 52	7 8	7 28	7 38	7 48	8 1	8 14	8 31
8	6 24	6 39	6 55	7 12	7 23	7 35	7 48	8 5	8 13	8 22	8 32	8 43	8 56
9	7 15	7 26	7 39	7 53	8 1	8 11	8 22	8 35	8 41	8 47	8 55	9 3	9 12
10	8 2	8 10	8 19	8 29	8 35	8 42	8 50	8 59	9 3	9 8	9 13	9 18	9 25
11	8 46	8 51	8 56	9 2	9 6	9 9	9 14	9 19	9 22	9 24	9 28	9 30	9 34
12	9 28	9 29	9 31	9 33	9 34	9 35	9 36	9 38	9 38	9 39	9 40	9 41	9 42
13	10 9	10 7	10 5	10 3	10 1	10 0	9 58	9 56	9 54	9 53	9 52	9 51	9 49
14	10 50	10 45	10 39	10 33	10 29	10 25	10 20	10 14	10 11	10 8	10 5	10 1	9 57
15	11 33	11 24	11 15	11 4	10 58	10 51	10 43	10 33	10 29	10 24	10 19	10 13	10 6
16	12 16	12 5	11 52	11 38	11 29	11 20	11 9	10 56	10 50	10 43	10 35	10 27	10 17
17	13 3	12 48	12 33	12 15	12 5	11 53	11 39	11 22	11 14	11 6	10 56	10 45	10 32
18	13 52	13 35	13 18	12 57	12 45	12 32	12 15	11 56	11 46	11 36	11 24	11 10	10 54
19	14 44	14 26	14 7	13 45	13 32	13 17	12 59	12 37	12 27	12 15	12 2	11 46	11 27
20	15 38	15 20	15 1	14 38	14 26	14 10	13 52	13 30	13 19	13 7	12 53	12 37	12 18
21	16 34	16 17	15 59	15 38	15 25	15 11	14 54	14 34	14 24	14 12	14 0	13 45	13 27
22	17 30	17 15	16 59	16 41	16 30	16 18	16 4	15 46	15 37	15 28	15 17	15 5	14 51
23	18 24	18 13	18 0	17 46	17 38	17 28	17 17	17 4	16 57	16 50	16 42	16 34	16 23
24	19 18	19 10	19 2	18 52	18 47	18 40	18 33	18 24	18 20	18 16	18 10	18 5	17 58
25	20 10	20 6	20 2	19 58	19 56	19 53	19 49	19 45	19 43	19 41	19 39	19 37	19 34
26	21 1	21 2	21 3	21 4	21 4	21 5	21 6	21 6	21 7	21 7	21 8	21 8	21 9
27	21 52	21 57	22 3	22 9	22 13	22 17	22 22	22 27	22 30	22 33	22 36	22 40	22 44
28	22 44	22 54	23 4	23 15	23 21	23 28	23 37	23 48	23 52	23 58	....	....	....
29	23 38	23 51	....	....	....	....	....	....	....	....	0 4	0 10	0 18
30	....	....	0 5	0 20	0 30	0 40	0 52	1 7	1 14	1 22	1 31	1 41	1 52
31	0 34	0 49	1 6	1 25	1 37	1 49	2 5	2 24	2 32	2 43	2 54	3 7	3 22
Aug. 1	1 30	1 48	2 7	2 28	2 41	2 55	3 12	3 34	3 44	3 56	4 9	4 24	4 42
2	2 27	2 45	3 5	3 27	3 40	3 55	4 13	4 35	4 45	4 57	5 11	5 27	5 46
3	3 23	3 41	3 59	4 20	4 33	4 47	5 4	5 25	5 35	5 46	5 58	6 13	6 30
4	4 17	4 33	4 49	5 8	5 19	5 32	5 47	6 5	6 13	6 23	6 33	6 46	7 0
5	5 8	5 21	5 35	5 50	5 59	6 10	6 22	6 37	6 43	6 51	6 59	7 9	7 19
6	5 56	6 6	6 16	6 28	6 35	6 43	6 51	7 2	7 7	7 13	7 19	7 26	7 33
7	6 41	6 47	6 54	7 2	7 6	7 11	7 17	7 24	7 27	7 31	7 34	7 39	7 43
8	7 24	7 27	7 30	7 33	7 36	7 38	7 40	7 44	7 45	7 46	7 48	7 50	7 52
9	8 6	8 5	8 4	8 4	8 3	8 3	8 2	8 2	8 1	8 0	8 0	8 0	8 0
10	8 47	8 43	8 39	8 34	8 31	8 28	8 24	8 20	8 18	8 15	8 13	8 10	8 8
11	9 29	9 21	9 13	9 4	8 59	8 53	8 46	8 38	8 35	8 30	8 26	8 21	8 16
12	10 12	10 1	9 50	9 37	9 30	9 21	9 12	9 0	8 54	8 48	8 42	8 34	8 26
13	10 56	10 43	10 29	10 12	10 3	9 52	9 40	9 25	9 18	9 10	9 1	8 51	8 40
14	11 43	11 28	11 11	10 52	10 41	10 28	10 13	9 54	9 46	9 36	9 25	9 13	8 58
15	12 33	12 16	11 57	11 36	11 24	11 9	10 52	10 32	10 22	10 10	9 58	9 43	9 26
16	13 25	13 7	12 48	12 26	12 13	11 58	11 40	11 18	11 8	10 56	10 42	10 26	10 7

TABLE VI.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	1 0	1 17	1 36	1 58	2 11	2 26	2 44	3 6	3 16	3 28	3 42	3 58	4 17
17	1 53	2 11	2 30	2 52	3 5	3 20	3 38	3 59	4 10	4 22	4 35	4 51	5 10
18	2 48	3 5	3 22	3 43	3 55	4 9	4 25	4 45	4 55	5 5	5 17	5 31	5 48
19	3 43	3 58	4 13	4 31	4 41	4 53	5 7	5 24	5 31	5 40	5 50	6 1	6 15
20	4 38	4 50	5 2	5 16	5 24	5 33	5 43	5 56	6 2	6 8	6 16	6 24	6 33
21	5 32	5 40	5 48	5 57	6 2	6 8	6 15	6 23	6 27	6 31	6 36	6 41	6 47
22	6 26	6 29	6 33	6 37	6 39	6 42	6 45	6 48	6 50	6 52	6 53	6 56	6 58
23	7 19	7 18	7 16	7 15	7 14	7 14	7 13	7 12	7 11	7 11	7 10	7 10	7 9
24	8 12	8 7	8 1	7 54	7 50	7 46	7 42	7 36	7 33	7 30	7 27	7 24	7 20
25	9 6	8 57	8 47	8 35	8 29	8 21	8 13	8 2	7 57	7 52	7 47	7 40	7 33
26	10 2	9 49	9 35	9 19	9 10	8 59	8 47	8 32	8 26	8 18	8 10	8 0	7 50
27	10 59	10 43	10 26	10 7	9 56	9 42	9 27	9 9	9 0	8 51	8 40	8 27	8 13
28	11 56	11 39	11 20	10 58	10 46	10 32	10 15	9 54	9 44	9 32	9 20	9 5	8 48
29	12 53	12 35	12 16	11 54	11 41	11 26	11 9	10 47	10 37	10 25	10 11	9 56	9 37
30	13 48	13 31	13 12	12 52	12 40	12 26	12 9	11 48	11 39	11 27	11 15	11 0	10 43
31	14 40	14 25	14 9	13 50	13 40	13 27	13 13	12 55	12 46	12 37	12 26	12 14	12 0
Sept. 1	15 30	15 17	15 4	14 49	14 40	14 30	14 18	14 3	13 56	13 49	13 40	13 31	13 20
2	16 16	16 7	15 57	15 46	15 39	15 31	15 23	15 12	15 7	15 2	14 56	14 49	14 41
3	17 1	16 55	16 48	16 41	16 37	16 32	16 27	16 20	16 17	16 13	16 10	16 5	16 1
4	17 43	17 41	17 38	17 35	17 33	17 31	17 29	17 26	17 25	17 24	17 22	17 20	17 19
5	18 25	18 26	18 27	18 28	18 29	18 30	18 30	18 32	18 32	18 33	18 34	18 34	18 35
6	19 6	19 10	19 15	19 21	19 24	19 27	19 32	19 37	19 39	19 42	19 44	19 48	19 51
7	19 48	19 56	20 4	20 13	20 19	20 25	20 32	20 41	20 46	20 50	20 55	21 1	21 7
8	20 31	20 42	20 53	21 6	21 14	21 23	21 34	21 46	21 52	21-59	22 6	22 14	22 23
9	21 16	21 29	21 44	22 0	22 10	22 21	22 34	22 50	22 58	23 7	23 16	23 27	23 39
10	22 2	22 18	22 35	22 55	23 6	23 19	23 34	23 54	....	....	....	....	....
11	22 52	23 9	23 27	23 48	....	....	....	....	0 3	0 13	0 24	0 38	0 53
12	23 43	....	....	....	0 1	0 15	0 32	0 54	1 4	1 15	1 28	1 43	2 1
13	....	0 0	0 20	0 41	0 54	1 9	1 26	1 48	1 59	2 10	2 24	2 39	2 58
14	0 36	0 53	1 11	1 32	1 44	1 59	2 16	2 36	2 46	2 57	3 10	3 24	3 42
15	1 29	1 45	2 1	2 20	2 31	2 44	2 59	3 17	3 26	3 35	3 46	3 58	4 12
16	2 23	2 36	2 50	3 5	3 14	3 25	3 37	3 52	3 58	4 6	4 14	4 24	4 35
17	3 17	3 26	3 36	3 48	3 54	4 2	4 11	4 21	4 26	4 31	4 37	4 44	4 51
18	4 10	4 15	4 21	4 28	4 32	4 36	4 41	4 47	4 50	4 53	4 56	5 0	5 4
19	5 3	5 5	5 6	5 7	5 8	5 9	5 10	5 12	5 12	5 13	5 14	5 14	5 15
20	5 57	5 54	5 51	5 47	5 45	5 42	5 39	5 36	5 35	5 33	5 31	5 29	5 27
21	6 53	6 45	6 37	6 28	6 23	6 17	6 10	6 2	5 58	5 54	5 50	5 45	5 40
22	7 50	7 38	7 26	7 12	7 4	6 55	6 44	6 32	6 26	6 20	6 12	6 4	5 55
23	8 48	8 34	8 18	8 0	7 50	7 38	7 24	7 7	6 59	6 51	6 41	6 30	6 17
24	9 47	9 30	9 13	8 52	8 40	8 26	8 10	7 50	7 41	7 30	7 18	7 5	6 49
25	10 46	10 28	10 10	9 48	9 35	9 21	9 3	8 42	8 32	8 20	8 7	7 52	7 34
26	11 43	11 26	11 8	10 46	10 34	10 20	10 3	9 42	9 32	9 21	9 8	8 54	8 36
27	12 37	12 21	12 5	11 46	11 34	11 22	11 6	10 48	10 39	10 29	10 18	10 5	9 50
28	13 27	13 14	13 0	12 44	12 35	12 24	12 11	11 56	11 49	11 41	11 32	11 21	11 10
29	14 15	14 4	13 54	13 41	13 34	13 26	13 16	13 4	12 59	12 53	12 46	12 39	12 30
30	14 59	14 52	14 45	14 36	14 32	14 26	14 20	14 12	14 8	14 4	14 0	13 55	13 50
Oct. 1	15 42	15 38	15 35	15 30	15 28	15 25	15 22	15 18	15 16	15 14	15 12	15 10	15 7

OCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Lat. / Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
ug. 16	13 25	13 7	12 48	12 26	12 13	11 58	11 40	11 18	11 8	10 56	10 42	10 26	10 7
17	14 19	14 2	13 43	13 22	13 9	12 54	12 37	12 15	12 5	11 53	11 40	11 24	11 6
18	15 15	14 59	14 42	14 22	14 11	13 58	13 42	13 22	13 13	13 3	12 51	12 38	12 22
19	16 10	15 56	15 42	15 26	15 17	15 6	14 53	14 37	14 30	14 22	14 12	14 2	13 50
20	17 4	16 54	16 44	16 32	16 26	16 18	16 8	15 57	15 52	15 46	15 40	15 33	15 25
21	17 58	17 52	17 46	17 40	17 36	17 31	17 26	17 19	17 16	17 13	17 10	17 6	17 1
22	18 51	18 50	18 48	18 47	18 46	18 45	18 44	18 43	18 42	18 42	18 41	18 40	18 39
23	19 44	19 47	19 50	19 55	19 57	20 0	20 2	20 6	20 8	20 10	20 12	20 14	20 16
24	20 38	20 45	20 53	21 2	21 8	21 14	21 21	21 29	21 33	21 38	21 43	21 48	21 54
25	21 32	21 44	21 56	22 10	22 18	22 28	22 38	22 52	22 58	23 5	23 13	23 21	23 31
26	22 29	22 43	22 59	23 17	23 28	23 40	23 54	....	....	....	....	....	....
27	23 26	23 43	....	....	....	....	....	0 11	0 20	0 29	0 39	0 51	1 4
28	....	....	0 1	0 22	0 34	0 48	1 4	1 25	1 34	1 46	1 58	2 12	2 30
29	0 23	0 41	1 0	1 22	1 35	1 50	2 7	2 29	2 40	2 51	3 5	3 20	3 39
30	1 19	1 37	1 56	2 17	2 30	2 44	3 1	3 22	3 32	3 44	3 56	4 11	4 29
31	2 13	2 29	2 46	3 6	3 18	3 31	3 46	4 5	4 14	4 24	4 35	4 48	5 3
Sept. 1	3 4	3 18	3 33	3 50	3 59	4 10	4 23	4 39	4 46	4 54	5 4	5 14	5 26
2	3 52	4 3	4 15	4 28	4 36	4 44	4 54	5 6	5 12	5 18	5 25	5 32	5 41
3	4 38	4 46	4 53	5 3	5 8	5 14	5 21	5 29	5 33	5 37	5 42	5 47	5 53
4	5 21	5 26	5 30	5 35	5 38	5 41	5 45	5 50	5 52	5 54	5 56	5 59	6 2
5	6 3	6 4	6 5	6 6	6 6	6 7	6 7	6 8	6 8	6 9	6 9	6 10	6 10
6	6 45	6 42	6 39	6 36	6 34	6 32	6 29	6 26	6 25	6 24	6 22	6 20	6 18
7	7 26	7 20	7 14	7 6	7 2	6 57	6 52	6 45	6 42	6 39	6 35	6 31	6 26
8	8 9	7 59	7 49	7 38	7 32	7 24	7 16	7 6	7 1	6 56	6 50	6 43	6 36
9	8 52	8 40	8 27	8 12	8 4	7 54	7 42	7 29	7 22	7 15	7 7	6 58	6 48
10	9 38	9 24	9 8	8 50	8 40	8 28	8 14	7 56	7 49	7 40	7 30	7 19	7 5
11	10 26	10 10	9 52	9 32	9 20	9 6	8 50	8 30	8 21	8 11	7 59	7 45	7 29
12	11 16	10 59	10 40	10 18	10 6	9 51	9 34	9 12	9 2	8 51	8 37	8 22	8 4
13	12 8	11 51	11 32	11 10	10 57	10 43	10 25	10 4	9 53	9 42	9 28	9 13	8 54
14	13 1	12 45	12 27	12 7	11 55	11 41	11 25	11 4	10 55	10 44	10 31	10 17	10 0
15	13 55	13 41	13 25	13 7	12 57	12 45	12 31	12 14	12 6	11 56	11 46	11 34	11 21
16	14 49	14 37	14 25	14 11	14 3	13 54	13 43	13 29	13 23	13 16	13 8	13 0	12 50
17	15 42	15 34	15 26	15 17	15 11	15 5	14 58	14 49	14 45	14 40	14 35	14 30	14 23
18	16 35	16 32	16 28	16 24	16 21	16 19	16 15	16 12	16 9	16 8	16 6	16 3	16 0
19	17 29	17 30	17 31	17 32	17 33	17 33	17 34	17 35	17 36	17 36	17 37	17 37	17 38
20	18 23	18 29	18 34	18 41	18 45	18 49	18 54	19 0	19 3	19 6	19 10	19 14	19 18
21	19 19	19 29	19 39	19 51	19 58	20 6	20 15	20 26	20 31	20 36	20 43	20 50	20 58
22	20 17	20 31	20 45	21 1	21 10	21 21	21 34	21 50	21 57	22 5	22 14	22 25	22 37
23	21 16	21 32	21 49	22 9	22 20	22 33	22 49	23 8	23 17	23 28	23 39	23 53	....
24	22 15	22 33	22 52	23 13	23 26	23 40	23 57	....	....	....	....	....	0 8
25	23 14	23 31	23 50	....	....	....	....	0 18	0 28	0 40	0 53	1 8	1 26
26	....	....	....	0 11	0 24	0 39	0 56	1 17	1 27	1 38	1 51	2 6	2 24
27	0 9	0 26	0 43	1 3	1 15	1 28	1 44	2 4	2 13	2 23	2 34	2 48	3 3
28	1 2	1 16	1 31	1 49	1 59	2 10	2 24	2 41	2 48	2 57	3 6	3 17	3 30
29	1 51	2 2	2 15	2 29	2 37	2 46	2 57	3 10	3 16	3 23	3 30	3 38	3 48
30	2 37	2 45	2 54	3 4	3 10	3 17	3 25	3 34	3 38	3 43	3 48	3 54	4 0
Oct. 1	3 20	3 25	3 31	3 37	3 41	3 45	3 50	3 55	3 58	4 0	4 4	4 7	4 11

TABLE VI.

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

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Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct. 1	15 42	15 38	15 35	15 30	15 28	15 25	15 22	15 18	15 16	15 14	15 12	15 10	15 7
2	16 24	16 23	16 23	16 23	16 23	16 23	16 23	16 23	16 23	16 23	16 23	16 23	16 23
3	17 5	17 8	17 12	17 16	17 18	17 21	17 24	17 28	17 30	17 31	17 34	17 36	17 39
4	17 46	17 53	18 0	18 8	18 13	18 18	18 25	18 32	18 36	18 40	18 44	18 49	18 54
5	18 29	18 39	18 50	19 1	19 8	19 16	19 26	19 37	19 42	19 48	19 54	20 2	20 11
6	19 13	19 26	19 39	19 55	20 4	20 14	20 26	20 41	20 48	20 56	21 5	21 15	21 28
7	20 0	20 14	20 30	20 49	21 0	21 12	21 26	21 45	21 53	22 3	22 13	22 26	22 43
8	20 48	21 4	21 22	21 42	21 54	22 8	22 25	22 45	22 55	23 5	23 18	23 32	23 49
9	21 38	21 55	22 14	22 35	22 48	23 2	23 19	23 41	23 51	....	....	....	....
10	22 29	22 46	23 4	23 26	23 38	23 52	....	....	....	0 3	0 16	0 31	0 49
11	23 21	23 37	23 54	....	....	....	0 9	0 30	0 40	0 51	1 4	1 19	1 36
12	....	....	....	0 13	0 25	0 38	0 54	1 12	1 21	1 31	1 43	1 56	2 11
13	0 12	0 26	0 41	0 58	1 8	1 19	1 32	1 48	1 56	2 4	2 13	2 24	2 36
14	1 4	1 15	1 27	1 40	1 48	1 56	2 7	2 19	2 24	2 30	2 38	2 45	2 54
15	1 56	2 3	2 11	2 20	2 25	2 31	2 37	2 45	2 49	2 53	2 57	3 2	3 8
16	2 48	2 51	2 54	2 58	3 1	3 4	3 6	3 10	3 12	3 14	3 16	3 18	3 20
17	3 40	3 39	3 38	3 37	3 36	3 36	3 35	3 34	3 34	3 33	3 33	3 32	3 31
18	4 34	4 29	4 24	4 17	4 14	4 10	4 5	4 0	3 57	3 54	3 51	3 48	3 44
19	5 31	5 22	5 12	5 0	4 54	4 46	4 38	4 28	4 23	4 18	4 12	4 6	3 59
20	6 30	6 17	6 3	5 47	5 38	5 27	5 15	5 0	4 54	4 46	4 38	4 29	4 18
21	7 30	7 15	6 58	6 39	6 28	6 15	6 0	5 41	5 33	5 23	5 12	5 0	4 45
22	8 32	8 15	7 56	7 35	7 23	7 8	6 52	6 31	6 21	6 10	5 58	5 43	5 26
23	9 32	9 14	8 56	8 35	8 22	8 8	7 51	7 30	7 20	7 9	6 56	6 41	6 23
24	10 29	10 13	9 56	9 36	9 24	9 11	8 55	8 36	8 27	8 16	8 4	7 51	7 35
25	11 22	11 8	10 53	10 36	10 26	10 15	10 2	9 45	9 38	9 29	9 19	9 8	8 56
26	12 11	12 0	11 48	11 35	11 27	11 18	11 8	10 55	10 49	10 42	10 35	10 27	10 17
27	12 57	12 49	12 41	12 31	12 26	12 20	12 12	12 4	11 59	11 55	11 50	11 44	11 38
28	13 41	13 36	13 31	13 26	13 23	13 19	13 15	13 10	13 8	13 5	13 2	12 59	12 56
29	14 23	14 22	14 20	14 19	14 18	14 17	14 16	14 15	14 15	14 14	14 14	14 13	14 12
30	15 4	15 6	15 9	15 11	15 13	15 15	15 17	15 20	15 21	15 22	15 24	15 26	15 27
31	15 45	15 51	15 57	16 4	16 8	16 12	16 18	16 24	16 27	16 30	16 34	16 38	16 42
Nov. 1	16 27	16 36	16 46	16 56	17 3	17 10	17 18	17 28	17 33	17 38	17 44	17 50	17 58
2	17 11	17 23	17 36	17 50	17 58	18 8	18 19	18 33	18 39	18 46	18 54	19 3	19 14
3	17 57	18 11	18 26	18 44	18 54	19 6	19 20	19 37	19 45	19 54	20 4	20 15	20 29
4	18 45	19 1	19 18	19 38	19 50	20 3	20 19	20 38	20 48	20 58	21 10	21 24	21 40
5	19 34	19 52	20 10	20 31	20 44	20 58	21 15	21 36	21 46	21 57	22 10	22 25	22 43
6	20 25	20 42	21 1	21 22	21 35	21 49	22 6	22 27	22 38	22 49	23 2	23 17	23 34
7	21 17	21 33	21 50	22 11	22 22	22 36	22 52	23 11	23 21	23 31	23 43	23 56	....
8	22 8	22 22	22 38	22 56	23 6	23 18	23 32	23 49	23 56	....	....	....	0 12
9	22 58	23 10	23 23	23 37	23 46	23 55	....	....	....	0 5	0 15	0 26	0 39
10	23 48	23 57	....	....	....	....	0 6	0 20	0 26	0 33	0 40	0 49	0 58
11	....	....	0 6	0 17	0 24	0 29	0 37	0 47	0 51	0 56	1 1	1 7	1 14
12	0 38	0 43	0 48	0 54	0 57	1 1	1 6	1 11	1 13	1 16	1 19	1 22	1 26
13	1 28	1 29	1 30	1 31	1 32	1 32	1 34	1 35	1 35	1 36	1 36	1 37	1 38
14	2 19	2 16	2 13	2 9	2 7	2 4	2 1	1 58	1 57	1 55	1 53	1 51	1 49
15	3 13	3 6	2 58	2 49	2 44	2 38	2 32	2 24	2 20	2 16	2 12	2 7	2 2
16	4 10	3 58	3 46	3 33	3 25	3 16	3 6	2 53	2 48	2 42	2 35	2 27	2 18

)CAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Lat. / ate.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
ct. 1	3 20	3 25	3 31	3 37	3 41	3 45	3 50	3 55	3 58	4 0	4 4	4 7	4 11
2	4 2	4 4	4 6	4 8	4 10	4 11	4 12	4 14	4 15	4 16	4 17	4 18	4 19
3	4 44	4 42	4 40	4 38	4 37	4 36	4 35	4 33	4 32	4 31	4 30	4 29	4 28
4	5 25	5 20	5 15	5 9	5 6	5 1	4 57	4 52	4 49	4 46	4 43	4 40	4 36
5	6 7	5 59	5 50	5 40	5 35	5 28	5 21	5 12	5 8	5 3	4 58	4 52	4 46
6	6 50	6 39	6 28	6 14	6 6	5 57	5 47	5 34	5 28	5 22	5 15	5 7	4 58
7	7 36	7 22	7 7	6 50	6 41	6 30	6 16	6 1	5 53	5 45	5 36	5 25	5 14
8	8 23	8 7	7 50	7 31	7 19	7 6	6 51	6 32	6 23	6 14	6 2	5 50	5 35
9	9 12	8 55	8 36	8 16	8 3	7 49	7 32	7 11	7 2	6 50	6 38	6 23	6 6
10	10 2	9 45	9 26	9 4	8 52	8 37	8 20	7 59	7 49	7 37	7 24	7 8	6 50
11	10 54	10 37	10 19	9 58	9 46	9 32	9 15	8 55	8 45	8 34	8 21	8 7	7 50
12	11 46	11 30	11 14	10 56	10 45	10 32	10 17	9 59	9 50	9 40	9 30	9 17	9 2
13	12 37	12 25	12 11	11 56	11 47	11 36	11 24	11 9	11 2	10 55	10 46	10 36	10 25
14	13 29	13 19	13 9	12 58	12 52	12 44	12 35	12 24	12 19	12 14	12 8	12 1	11 53
15	14 20	14 15	14 9	14 2	13 58	13 54	13 49	13 42	13 39	13 36	13 33	13 29	13 24
16	15 12	15 11	15 10	15 8	15 7	15 6	15 5	15 3	15 3	15 2	15 1	15 0	14 59
17	16 6	16 9	16 12	16 16	16 18	16 20	16 23	16 26	16 28	16 30	16 32	16 34	16 36
18	17 1	17 8	17 16	17 25	17 30	17 36	17 43	17 52	17 55	18 0	18 4	18 10	18 16
19	17 58	18 10	18 22	18 36	18 44	18 53	19 4	19 17	19 23	19 30	19 38	19 47	19 56
20	18 58	19 13	19 29	19 47	19 57	20 9	20 23	20 41	20 49	20 58	21 9	21 21	21 34
21	20 0	20 16	20 34	20 55	21 7	21 21	21 37	21 58	22 8	22 18	22 31	22 45	23 2
22	21 1	21 18	21 37	21 58	22 11	22 25	22 42	23 4	23 14	23 25	23 38	23 53	....
23	21 59	22 16	22 34	22 55	23 7	23 21	23 37	23 57	....	....	....	....	0 11
24	22 55	23 10	23 26	23 44	23 55	....	....	....	0 7	0 17	0 30	0 43	1 0
25	23 46	23 59	....	....	....	0 7	0 21	0 39	0 47	0 56	1 6	1 18	1 31
26	....	....	0 12	0 27	0 36	0 46	0 58	1 12	1 18	1 25	1 33	1 42	1 52
27	0 34	0 43	0 53	1 5	1 11	1 19	1 27	1 38	1 42	1 48	1 53	2 0	2 7
28	1 19	1 25	1 31	1 39	1 43	1 48	1 53	2 0	2 3	2 6	2 10	2 14	2 19
29	2 1	2 4	2 7	2 10	2 12	2 14	2 17	2 20	2 21	2 23	2 24	2 26	2 28
30	2 43	2 42	2 41	2 41	2 40	2 40	2 39	2 39	2 38	2 38	2 38	2 37	2 37
31	3 24	3 20	3 16	3 11	3 8	3 5	3 2	2 57	2 55	2 53	2 51	2 48	2 45
Nov. 1	4 6	3 58	3 51	3 42	3 37	3 32	3 25	3 17	3 14	3 10	3 5	3 0	2 55
2	4 49	4 38	4 28	4 15	4 8	4 0	3 50	3 39	3 34	3 28	3 21	3 14	3 6
3	5 33	5 20	5 7	4 51	4 42	4 31	4 19	4 4	3 57	3 50	3 41	3 32	3 21
4	6 20	6 5	5 49	5 30	5 19	5 7	4 52	4 35	4 26	4 17	4 6	3 55	3 41
5	7 9	6 52	6 34	6 14	6 2	5 48	5 32	5 12	5 2	4 52	4 40	4 26	4 9
6	7 59	7 42	7 23	7 2	6 49	6 35	6 18	5 56	5 46	5 35	5 22	5 7	4 49
7	8 50	8 33	8 15	7 54	7 42	7 28	7 11	6 50	6 40	6 29	6 16	6 1	5 44
8	9 41	9 26	9 9	8 50	8 38	8 26	8 10	7 51	7 42	7 32	7 21	7 8	6 52
9	10 32	10 19	10 4	9 48	9 38	9 28	9 14	8 58	8 51	8 43	8 33	8 23	8 10
10	11 22	11 12	11 1	10 48	10 40	10 32	10 22	10 10	10 4	9 58	9 51	9 43	9 34
11	12 12	12 5	11 58	11 49	11 44	11 39	11 32	11 24	11 20	11 17	11 12	11 7	11 1
12	13 2	12 59	12 55	12 52	12 50	12 47	12 44	12 41	12 39	12 38	12 36	12 33	12 31
13	13 52	13 53	13 54	13 56	13 56	13 57	13 58	13 59	14 0	14 0	14 1	14 2	14 3
14	14 44	14 50	14 55	15 2	15 6	15 10	15 14	15 20	15 23	15 26	15 29	15 33	15 37
15	15 39	15 48	15 59	16 10	16 17	16 24	16 33	16 44	16 49	16 54	17 0	17 7	17 15
16	16 37	16 50	17 4	17 20	17 29	17 40	17 52	18 8	18 15	18 23	18 32	18 42	18 54

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1918.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	4 10	3 58	3 46	3 33	3 25	3 16	3 6	2 53	2 48	2 42	2 35	2 27	2 18
17	5 9	4 55	4 39	4 22	4 12	4 0	3 46	3 30	3 22	3 14	3 4	2 53	2 41
18	6 11	5 54	5 36	5 16	5 4	4 51	4 34	4 15	4 6	3 55	3 43	3 30	3 14
19	7 13	6 55	6 37	6 16	6 3	5 49	5 32	5 10	5 0	4 49	4 36	4 22	4 4
20	8 13	7 56	7 38	7 18	7 6	6 52	6 36	6 15	6 6	5 55	5 42	5 28	5 11
21	9 10	8 55	8 39	8 21	8 10	7 58	7 44	7 26	7 17	7 8	6 58	6 46	6 31
22	10 3	9 50	9 37	9 22	9 14	9 4	8 52	8 38	8 31	8 24	8 16	8 6	7 56
23	10 51	10 42	10 33	10 22	10 15	10 8	9 59	9 49	9 44	9 39	9 33	9 26	9 19
24	11 37	11 31	11 25	11 18	11 14	11 10	11 4	10 58	10 55	10 52	10 48	10 44	10 40
25	12 20	12 18	12 15	12 12	12 11	12 9	12 7	12 5	12 3	12 2	12 1	11 59	11 58
26	13 2	13 3	13 4	13 5	13 6	13 7	13 8	13 10	13 10	13 11	13 12	13 13	13 14
27	13 43	13 47	13 52	13 58	14 1	14 4	14 9	14 14	14 16	14 19	14 22	14 25	14 28
28	14 25	14 32	14 41	14 50	14 56	15 2	15 9	15 18	15 22	15 27	15 32	15 38	15 44
29	15 8	15 19	15 30	15 43	15 51	16 0	16 10	16 23	16 28	16 35	16 42	16 50	17 0
30	15 53	16 6	16 21	16 37	16 47	16 58	17 11	17 27	17 34	17 43	17 52	18 3	18 15
Dec. 1	16 40	16 56	17 12	17 32	17 43	17 56	18 11	18 30	18 39	18 49	19 0	19 13	19 28
2	17 30	17 47	18 5	18 26	18 38	18 52	19 9	19 30	19 39	19 50	20 3	20 18	20 35
3	18 21	18 38	18 57	19 18	19 31	19 45	20 2	20 24	20 34	20 45	20 58	21 13	21 31
4	19 13	19 30	19 48	20 8	20 20	20 34	20 50	21 11	21 20	21 31	21 43	21 57	22 14
5	20 5	20 20	20 36	20 55	21 6	21 18	21 33	21 50	21 58	22 8	22 18	22 30	22 44
6	20 56	21 8	21 22	21 38	21 47	21 57	22 9	22 23	22 30	22 37	22 46	22 55	23 6
7	21 46	21 55	22 6	22 17	22 24	22 32	22 40	22 51	22 56	23 2	23 7	23 14	23 22
8	22 35	22 41	22 47	22 55	22 59	23 4	23 9	23 16	23 19	23 22	23 26	23 30	23 35
9	23 23	23 26	23 28	23 31	23 32	23 34	23 36	23 39	23 40	23 41	23 42	23 44	23 46
10	....	....	....	....	....	....	....	....	....	....	23 59	23 58	23 56
11	0 12	0 11	0 9	0 7	0 6	0 4	0 3	0 1	0 1	0 0	....	....	....
12	1 3	0 57	0 52	0 44	0 40	0 36	0 31	0 25	0 22	0 19	0 16	0 12	0 8
13	1 56	1 47	1 36	1 25	1 18	1 11	1 2	0 52	0 47	0 42	0 36	0 29	0 22
14	2 52	2 39	2 26	2 10	2 0	1 50	1 38	1 23	1 17	1 9	1 1	0 51	0 41
15	3 51	3 36	3 19	3 0	2 49	2 36	2 21	2 3	1 54	1 44	1 34	1 21	1 7
16	4 52	4 35	4 17	3 56	3 43	3 29	3 13	2 52	2 42	2 31	2 19	2 5	1 48
17	5 54	5 36	5 18	4 57	4 44	4 30	4 13	3 52	3 42	3 31	3 18	3 3	2 46
18	6 53	6 37	6 20	6 0	5 48	5 35	5 20	5 0	4 51	4 41	4 29	4 16	4 0
19	7 49	7 35	7 21	7 4	6 54	6 43	6 30	6 14	6 6	5 58	5 48	5 37	5 25
20	8 41	8 30	8 18	8 6	7 58	7 50	7 39	7 27	7 22	7 15	7 8	7 0	6 51
21	9 29	9 21	9 14	9 5	9 0	8 54	8 47	8 39	8 35	8 31	8 26	8 21	8 15
22	10 14	10 10	10 6	10 1	9 59	9 56	9 52	9 48	9 46	9 44	9 42	9 39	9 36
23	10 57	10 56	10 56	10 56	10 56	10 56	10 55	10 55	10 55	10 55	10 55	10 55	10 55
24	11 39	11 42	11 45	11 49	11 51	11 54	11 57	12 1	12 2	12 4	12 6	12 8	12 11
25	12 20	12 27	12 34	12 42	12 46	12 52	12 58	13 5	13 9	13 13	13 17	13 21	13 27
26	13 3	13 13	13 23	13 35	13 42	13 50	13 59	14 10	14 15	14 21	14 27	14 34	14 42
27	13 47	14 0	14 13	14 28	14 37	14 47	14 59	15 14	15 21	15 28	15 37	15 46	15 58
28	14 34	14 48	15 4	15 22	15 33	15 45	16 0	16 18	16 26	16 35	16 46	16 58	17 12
29	15 22	15 39	15 56	16 17	16 28	16 42	16 58	17 18	17 28	17 39	17 51	18 5	18 22
30	16 13	16 30	16 49	17 10	17 23	17 37	17 54	18 16	18 26	18 37	18 50	19 5	19 23
31	17 5	17 22	17 41	18 2	18 14	18 28	18 45	19 6	19 16	19 27	19 40	19 54	20 11
32	17 58	18 14	18 31	18 50	19 2	19 15	19 30	19 49	19 58	20 8	20 19	20 32	20 46

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1918.

. . To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 44.

For other longitudes and for southern latitudes see page 78.

Date. \ Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	16 37	16 50	17 4	17 20	17 29	17 40	17 52	18 8	18 15	18 23	18 32	18 42	18 54
17	17 38	17 54	18 11	18 30	18 41	18 54	19 10	19 29	19 38	19 48	19 59	20 12	20 28
18	18 40	18 57	19 16	19 37	19 50	20 4	20 21	20 42	20 52	21 3	21 16	21 31	21 48
19	19 42	19 59	20 18	20 39	20 51	21 5	21 22	21 43	21 53	22 4	22 16	22 31	22 48
20	20 41	20 57	21 14	21 33	21 44	21 58	22 13	22 32	22 40	22 50	23 1	23 14	23 29
21	21 36	21 50	22 4	22 20	22 30	22 41	22 54	23 9	23 16	23 24	23 33	23 43	23 55
22	22 27	22 37	22 49	23 2	23 9	23 17	23 27	23 39	23 44	23 50	23 57	....	....
23	23 14	23 21	23 29	23 38	23 43	23 49	23 55	....	....	....	....	0 4	0 13
24	23 58	....	....	....	....	....	....	0 3	0 7	0 11	0 16	0 20	0 26
25	....	0 2	0 6	0 11	0 14	0 17	0 20	0 24	0 26	0 28	0 31	0 33	0 36
26	0 40	0 41	0 41	0 42	0 42	0 43	0 43	0 44	0 44	0 44	0 45	0 45	0 45
27	1 22	1 19	1 16	1 12	1 10	1 8	1 6	1 3	1 1	1 0	0 58	0 56	0 54
28	2 3	1 57	1 50	1 43	1 39	1 34	1 28	1 22	1 19	1 15	1 12	1 8	1 3
29	2 46	2 36	2 27	2 15	2 9	2 2	1 53	1 43	1 38	1 33	1 27	1 21	1 14
30	3 30	3 18	3 5	2 50	2 42	2 32	2 21	2 7	2 1	1 54	1 46	1 37	1 27
Dec. 1	4 16	4 1	3 46	3 28	3 18	3 6	2 52	2 36	2 28	2 19	2 9	1 58	1 45
2	5 4	4 48	4 31	4 11	3 59	3 46	3 30	3 10	3 1	2 51	2 40	2 26	2 10
3	5 55	5 37	5 19	4 58	4 45	4 31	4 14	3 53	3 43	3 32	3 19	3 4	2 46
4	6 46	6 29	6 11	5 49	5 37	5 23	5 6	4 44	4 34	4 23	4 10	3 55	3 37
5	7 38	7 22	7 5	6 45	6 33	6 20	6 4	5 44	5 35	5 24	5 12	4 59	4 42
6	8 30	8 15	8 0	7 43	7 33	7 21	7 7	6 50	6 42	6 34	6 24	6 12	5 59
7	9 20	9 9	8 56	8 42	8 34	8 25	8 14	8 1	7 55	7 48	7 40	7 32	7 22
8	10 9	10 1	9 53	9 43	9 37	9 31	9 23	9 14	9 10	9 5	9 0	8 54	8 47
9	10 58	10 54	10 49	10 44	10 41	10 37	10 34	10 29	10 26	10 24	10 21	10 18	10 15
10	11 47	11 46	11 46	11 46	11 45	11 45	11 45	11 44	11 44	11 44	11 44	11 43	11 43
11	12 36	12 40	12 44	12 48	12 51	12 54	12 57	13 1	13 3	13 6	13 8	13 10	13 13
12	13 28	13 36	13 44	13 53	13 59	14 5	14 12	14 21	14 25	14 29	14 34	14 40	14 46
13	14 22	14 34	14 46	15 0	15 8	15 17	15 28	15 41	15 48	15 54	16 2	16 11	16 21
14	15 20	15 34	15 50	16 8	16 18	16 30	16 44	17 2	17 10	17 19	17 29	17 41	17 54
15	16 20	16 37	16 54	17 15	17 27	17 41	17 57	18 17	18 27	18 38	18 50	19 4	19 21
16	17 22	17 39	17 58	18 19	18 32	18 46	19 4	19 24	19 34	19 46	19 58	20 13	20 31
17	18 22	18 39	18 57	19 17	19 29	19 43	19 59	20 19	20 29	20 39	20 51	21 5	21 21
18	19 20	19 35	19 51	20 9	20 20	20 32	20 46	21 3	21 11	21 20	21 30	21 41	21 55
19	20 14	20 26	20 39	20 54	21 2	21 12	21 23	21 37	21 43	21 50	21 58	22 7	22 16
20	21 4	21 13	21 23	21 33	21 40	21 47	21 55	22 4	22 9	22 14	22 19	22 26	22 32
21	21 51	21 56	22 2	22 9	22 12	22 17	22 22	22 28	22 30	22 33	22 36	22 40	22 44
22	22 35	22 37	22 39	22 41	22 43	22 44	22 46	22 48	22 49	22 50	22 51	22 52	22 54
23	23 17	23 16	23 14	23 12	23 11	23 10	23 9	23 7	23 6	23 6	23 5	23 4	23 3
24	23 59	23 54	23 49	23 43	23 40	23 36	23 32	23 26	23 24	23 22	23 18	23 15	23 12
25	....	....	....	....	....	....	23 56	23 47	23 43	23 38	23 33	23 28	23 22
26	0 41	0 33	0 25	0 15	0 9	0 3	....	....	....	23 58	23 50	23 43	23 34
27	1 25	1 14	1 2	0 49	0 41	0 32	0 22	0 9	0 4	....	....	....	23 50
28	2 10	1 56	1 42	1 25	1 16	1 4	0 52	0 36	0 29	0 21	0 12	0 1	....
29	2 57	2 42	2 25	2 6	1 54	1 42	1 27	1 8	1 0	0 50	0 39	0 26	0 12
30	3 47	3 30	3 12	2 51	2 39	2 24	2 8	1 48	1 38	1 27	1 14	1 0	0 43
31	4 38	4 21	4 2	3 41	3 28	3 14	2 57	2 36	2 26	2 14	2 1	1 46	1 28
32	5 31	5 14	4 56	4 36	4 24	4 10	3 53	3 33	3 23	3 12	3 0	2 45	2 28

FOR NORTHERN STATIONS NOT ON THE MERIDIAN OF GREENWICH AND FOR SOUTHERN STATIONS.

For northern stations not on the meridian of Greenwich.—For longitudes twelve hours or less west from Greenwich, obtain the data for the given latitude from Table VI for the given date and for the date following; for longitudes twelve hours or less east from Greenwich, obtain the data for the given latitude from Table VI for the given date and for the date preceding. Subtract the time on the earlier date from the time on the later and multiply the difference by the twenty-fourth part of the longitude in hours and decimals of an hour, positive if west, negative if east. Apply the product as a correction to the time on the given date.

For southern stations.—The instant of moonrise or moonset for any station south of the equator is that of moonset or moonrise, respectively, at a place of the same latitude north of the equator whose longitude is twelve hours different from that of the southern station.

If the southern station be twelve hours or less west from Greenwich, and the phenomenon at that station occurs between noon and midnight, the local astronomical day will be the same at the southern and northern stations. If, however, the phenomenon at the southern station occurs between midnight and noon, the local astronomical day at the northern station will be one day later than at the southern.

If the southern station be twelve hours or less east from Greenwich and the phenomenon at that station occurs between noon and midnight, the local astronomical day at the northern station will be one less than at the southern station. If, however, the phenomenon occurs between midnight and noon, the local astronomical day will be the same at the two stations.

Having thus determined the true astronomical day at the northern station, compute by the rule for northern latitudes. For the desired local time of moonrise at the southern station change the time of moonset at the northern station twelve hours. For the desired local time of moonset at the southern station change the time of moonrise at the northern station twelve hours.

Example.—December 20, 1918, civil date, find the time of moonrise and moonset in longitude $4^h\ 43^m$ west from Greenwich and in latitude 33° 30′ south.

The longitude of the northern station is $7^h.3$ east from Greenwich and its latitude is 33°.5 N. Upon inspection of Table VI it is seen that the astronomical day at the southern station is December 20 for moonrise and December 19 for moonset, the former phenomenon occurring between noon and midnight, the latter between midnight and noon. For the northern station, in accordance with the precepts given above, both phenomena are to be computed for December 20.

At northern station—

	Moonrise. d h m	Moonset. d h m
Table VI, Lat. +33°.5	Dec. 19 6 57	Dec. 19 21 0
Table VI, Lat. +33°.5	20 8 0	20 21 38
Difference	63	38
Product of Diff. by $-\frac{7.3}{24}$	−19	−12
Local astronomical mean time	7 41	21 26

At southern station—

	Moonset.	Moonrise.
Local astronomical mean time	19 41	9 26
Civil time	Dec. 20 7 41 A. M.	Dec. 20 9 26 P. M.